

# Lwarp

L<sup>A</sup>T<sub>E</sub>X HTML<sup>5</sup>

## The lwarp package

L<sup>A</sup>T<sub>E</sub>X to HTML

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### Abstract

The `lwarp` package converts L<sup>A</sup>T<sub>E</sub>X to HTML by using L<sup>A</sup>T<sub>E</sub>X to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L<sup>A</sup>T<sub>E</sub>X packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, XeL<sup>A</sup>T<sub>E</sub>X; by several CJK engines, classes, and packages; or by customized systems such as `pertex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M<sup>I</sup>K<sup>T</sup>E<sup>X</sup>) and PERL. Detailed installation instructions are included for each of the major operating systems and T<sub>E</sub>X distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L<sup>A</sup>T<sub>E</sub>X expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T<sub>E</sub>X is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L<sup>A</sup>T<sub>E</sub>X, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T<sub>E</sub>X. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, `side-by-side minipages`, and JAVASCRIPT-free navigation.

[For a quick-start tutorial, see section 5, Tutorial.](#)

[For a list of supported features, see table 2: Supported packages and features.](#)

[To update existing projects, see section 1: Updates.](#)

**Lwarp is still in development. Changes are likely.**

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- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
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**Libre Font Fund:** Fonts, tools (FontForge), and distribution (the Open Font Library).

**LuaTeX:** Combining the PDF T<sub>E</sub>X engine and the Lua language.

**MetaPost:** Postscript graphics.

**MacTeX:** T<sub>E</sub>X for Mac.

**PDF Accessibility:** Modern PDF standards.

**Other:** Additional projects may be specified.

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# 1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1334](#).

**v0.911:** Updated `mismath`, `tcolorbox`.

**v0.910:** Updated `fvextra`, `minted`.

**v0.909:** `\ref` fix.

- Fixed `\ref*`, `beamerarticle`, `lyluatex`, `realscripts`.
- Updated `mismath`, `nicematrix`, `pablance`, `pdfpages`, `simplebnf`, `tagpdf`.

**v0.908:** Bug fix.

- Fixed obscure cross-reference issue, seen in some citations.

**v0.907:** Bug fix.

- Fixed `svg` images for `WINDOWS`.

**v0.906:** Screen readers

- For each `tabular`, add a hidden `HTML` header cell to convince screen readers that the tables are data not layout. Also hide from the screen reader any final row used only to produce bottom borders.
- Adjusted `svg` math for a margin change in `pdfcrop`.
- Added `\Ref`.
- Added docs regarding math in custom environments. See section [8.7](#).

**v0.905:** Bug fixes, internal improvements.

- Fixed conflict between `cleveref` and `splitidx`.
- Improved coexistence with `\AtEndDocument`.
- `acronym`: Updated to `v1.47`, added hyper links.

**v0.904a:** Fixed missing `lwarp-common-mathjax-siunitx` package.

**v0.904:** Added `siunitx` `v3`.

- Fixed `HTML` tags inside non-Latin text.
- `MATHJAX` now defaults to `svg` rendering.
- Added `siunitx` `v3`. Updated `siunitx-v2`. See section [8.7.15](#) for limitations.
- Updated `caption`, `chemmacros`, `fbox`, `hyperref`, `multicol`, `wrapfig2`.

**v0.903:** Various updates and improvements.

*lwarpmk*

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.

core

- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.

⚠ New images

- Due to changes in how automatically-generated svg image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.

- Improved back refs.

- Fixed `verbatim*`.

- Various internal updates for recent L<sup>A</sup>T<sub>E</sub>X release.

packages

- `cuted`: Updated to v2.0.

- `flushend`: Updated to v4.0.

- `mathalpha`: Updated for v1.14+.

- `minted`: Updated to v2.6.

- `cases`: Updated to v3.2.

- `siunitx` with MATHJAX: Improved `\per`, `\numlist`, `\SIlist`, comma decimal points.

- Added `showlabels`, `wrapfig2`.

**v0.902:** beamerarticle, footnotes, paragraph tags.

core

- Fixed footnotes inside descriptions, `minipages`, `amsthm`, `\nameref`.

- Improved various paragraph tags.

packages

- Improved `parnotes`, `sympytex`.

- Added `beamerarticle`.

- Updated `luatexko`, `xetexko`, `tagpdf`.

MATHJAX

- Added missing standard international text symbols for MATHJAX.

**v0.901:** Tabular columns, float caption CSS, MATHJAX packages.

core

- Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.

- Improved float caption CSS for newer browsers.

- Improved emulation of `\newcolumnntype`.

- Added `\HTMLnewcolumnntype`. See section 7.6,

- `>\centering\arraybackslash`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section 8.10.1.

MATHJAX

- Now uses MATHJAX 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.

packages

- `dcolumn`: Now works inside a `lateximage`.

- Added `mwe`.

- Added `lATEX-tascmac`, which fixed `ascmac`.

**v0.900:** Package updates.

core  
packages

- Fix for detecting `\usepackage{lwarp}`.
- `amsmath`: Fixed `alignat` with `MATHJAX`.
- `changes`: Updated to v4.2.1.
- `froufrou`: Updated to v1.4.0.
- `lipsum`: Updated to v2.3.

**v0.899:** Minor updates.

core  
packages

- `lwarpmk`: Warns if `\usepackage{lwarp}` is not detected.
- `graphics`: Added support for `keepaspectratio`.
- `keyfloat`: Fix: `lw` with `h`.
- `multicol`: Improved `css`.

**v0.898:** Minor updates.

- Fewer `underfull \hbox` warnings.
- `wrapfig`: Improved integration with `keyfloat`.

**v0.897:** `siunitx` rollback.

docs

- Added a table of file extensions to use with `\includegraphics`. See table 9.

core  
packages

- Added tests for additional incompatible packages.
- `siunitx`: Supports rollback to v2. Does not yet support v3.
- `fixme`: Improved to work if the user modifies layouts.
- `float`: Improved integration with `newfloat`, `keyfloat`.
- Added `centerlastline`, `decorule`, `fancypar`, `froufrou`, `pbalance`.
- Verified works as-is with `fnpct`.

**v0.896:** Back references, accessibility.



- **Due to changes in cross referencing, execute `lwarpmk clean` before recompiling.**

- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.

MATHJAX  
theorems

- Added an error if using braces inside `\usepackage` options.
- Fixed footnotes in bracket display math with `MATHJAX`.
- `LATEX` `theorems`, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.

accessibility

- Added HTML `<main>` element to each page.
- Added `ARIA` `math` role to `SVG` `math` images, and `note` role to margin notes, footnotes, etc.

packages

- Improved citation backreferences for various packages.
- `chemfig`: Updated to v1.6a.
- `bigdelim`: Updated to v2.8.
- `xetexko`: Updated to v3.1.

- hyperxmp: Fix: Accept and discard additional keys.
- hyperref: Fix: Added `\*autorefname` macros.
- biblatex: Fix: Back references.
- tocloft: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
- threeparttable: Fix: `\TPTL@tnotex`.
- amsthm: Fix: Footnotes inside environment optional argument.
- listings: Fixed labels. Accepts but ignores escapes w/o error.
- pdfscape: Fix: Added landscape environment.
- Added `ccicons`, `classicthesis`, `orcidlink`.
- Added `enotez`.
- Verified support for `doi`, `doipubmed`.

**v0.895:** Vector packages, greatly improved MATHJAX for siunitx.

- core
  - Fixed quotes in HTML tags while using old font packages with X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X.
- MATHJAX packages
  - Added `\ifblank` and `\ifstrequal` to MATHJAX emulation.
  - multirow: Allow `\par` per v2.7.
  - acro: Updated to v3.5.
  - fancyhdr: Updated to v4.0.
  - changes: Updated to v4.0.1.
  - epsfig, rotating: Now work inside `lateximage`.
  - amscdx: Verified to work with `svg math`. Warning added about use with MATHJAX.
  - Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
  - Improved MATHJAX emulation for siunitx `\ang`, `\num`, `\SI`.
  - Added `epsf`, `imprnatty`, `isotope`, `lpic`, `luavlna`, `mdwmath`, `pinlabel`, `rlepsz`, `tikz-image` labels, `xevlva`.
  - Verified to work as-is: `tensind`.

**v0.894:** MATHJAX additions and improvements.

- MATHJAX packages
  - Improved warning message for enabling `svg graphics` for select math expressions while using MATHJAX.
  - Accept and ignore a star for `\hspace`.
  - Ignores `\arabic`, `\number`, `\noalign`.
  - Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
  - booktabs: MATHJAX emulation now absorbs and discards `trim`.
  - menukeys: Updated to v1.6.1.

**v0.893:** Minor fixes, more packages.

- MATHJAX packages
  - Added MATHJAX emulation for `\mathnormal`.
  - Fixed `pstricks` `pspicture*`.
  - Fixed `tikz` font macros.
  - `braket`: Now uses the MATHJAX extension.

- Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
  - Added MATHJAX emulation for `mathspec`.
  - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.
- v0.892:** `minted`, `fvextra`, MATHJAX `\left/\right`.
- MATHJAX packages
- `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
  - `textpos`: Updated to v1.10.
  - `xcolor`: Fixed optional args for `\fcolorbox` and related.
  - Added `fvextra`, `minted`.
- v0.891:** MATHJAX additions and improvements.
- core
- Now displays inline `\verb` text as `\texttt`.
  - Fixed `alltt` and `verbatim` with L<sup>A</sup>T<sub>E</sub>X lists.
  - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX packages
- Added MATHJAX *textmacros* extension, allowing formatting inside `\text`.
  - `biblatex`, `hyperref`: Added back page references.
  - `fancyvrb`: Fixed `BVerbatim` with a label.
  - `listings`: Fixed MATHJAX with captions, improved HTML sanitation.
  - `babel-french`: Fixed `\texorpdfstring` conflict.
  - Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
  - Improved MATHJAX for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicefrac`, `shuffle`, `units`.
  - `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in `texdoc unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
  - Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`.
- v0.89:** Additional MATHJAX support.
- core
- Adapted to upcoming L<sup>A</sup>T<sub>E</sub>X kernel changes.
  - Allows load of `amsmath` before `lwarp`.
- lwarpmk
- Also removes `*.bb1` when cleaning aux files.
- MATHJAX packages
- `MATHJAX`: Neutralized `\protect`, `\mathcode` and related, ligatures. Fixed nested environments.
  - `caption`: Updated for v3.5, fix for label sep.
  - `thmtools`: Updated for v0.72. Fixed `swapnumber`, `margin`.
  - Improved MATHJAX for `centernot`, `mathtools`, `mismath`, `Slunits`, `siunitx`, `statmath`.
  - Added MATHJAX emulation for accents, `hepunits`, `hhtensor`, `mathalpha`, `mathdesign`, `mathpazo`, `mathptmx`, `mleftright`, `newpxmath`, `newtxmath`, `newtxsf`, `pxfonts`, `shuffle`, `txfonts`, `upgreek`, `ushort`.
  - Verified to work as-is: `authoraftertitle`.

**v0.88:** Indexing, boxing, theorems.

- Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- core
  - Fixed: `\ref*`, and also added MATHJAX emulation.
  - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
  - Fixed: Use `\chaptername` where appropriate.
  - Fixed: Inline links causing extraneous paragraphs.
- lwarpmk
  - Added `lwarpmk -v` to print the version number.
- indexing
  - Added the `IndexRef` option to control the display of index entries. See section 7.5.
  - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
  - Added support for `gindex`, `xindex`.
  - Verified to work as-is with `varindex`.
- packages
  - `cleveref`, `varioref`: Fix for starred macros.
  - `varioref`: Removed page-related text from HTML output.
  - `xfakebold`: Updated to v0.08, using `pdfrender`.
  - `caption`, `scrextend`: Fixed `\caption*`.
  - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

**v0.87:** MATHJAX, bibliography packages.

- core
  - Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
  - Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- MATHJAX
  - Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.7.
- Removed `\DeclareIfstar` packages
  - `physics`: Now supports the MATHJAX v3 extension.
  - `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
  - `nccmath`: Improved `\underrel` for MATHJAX.
  - `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
  - `cancel`: Now supports the MATHJAX v3 extension.
  - `embrac`: Neutralized kerning for improved HTML conversion.
  - Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
  - Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

**v0.86:** MATHJAX major updates.

- core
  - Fixed: Filename if named files with `*`, parens, period in section name.
  - Fixed: Labels in `eqnarray`, `lateximage`.
- MATHJAX
  - Updated to MATHJAX v3. New repository.
  - Fixed forward references for MATHJAX.



## packages

- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.7.
- Added `\DeclareIfstar` to define starred T<sub>E</sub>X macros in MATHJAX. See section 8.7.7.
- Generates an error if `\MathJaxFilename` file does not exist.
- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

## v0.85: fontspec

## packages

## ⚠ acro formats

- `fontspec`: Fixed core font change macros for world languages.
- `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

## v0.84: Previous/next page links, numerous fixes.

## docs

## ⚠ home page footer changed

- Added documentation of `BlockClass` and `\InlineClass` for CSS `<div>s` and `<span>s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.

## core

## ⚠

- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into L<sup>A</sup>T<sub>E</sub>X kernel.
- Fixed `\itshape`, etc. Adapted to L<sup>A</sup>T<sub>E</sub>X fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `<span>` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X<sub>Y</sub>T<sub>E</sub>X logo and `graphics` if actually used `\Xe`.
- `lwarpmk clean` also removes `comment_*.cut`.
- `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated memoir.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.

## lwarpmk

## packages

- Fixed or improved: amsthm, backref, biblatex, fixme, nfssect-cfr, ntheorem, parcolumns, realscripts, rotfloat, titling.
  - Added boxedminipage, renamed from boxedminipage2e per author.
  - Verified to work as-is with mcite.
- v0.83:** memoir fixes.
- packages
- memoir: Various fixes and updates.
  - physunits: Updated to v1.0.4.
- v0.82:** MATHJAX notes, xpinyin improvements, various updates.
- MATHJAX
- Improved footnotes with MATHJAX.
  - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
- xpinyin: Added pinyin with modern HTML.
  - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
  - soul: Fixed `\<`.
  - chemfig: Updated to v1.5.
  - draftwatermark: Updated to v2.0.
  - ulem: Fixed: `\dashuline`.
  - amsmath: Fixed: `\intertext` with MATHJAX.
  - endnotes: Fixed: Marks in print mode.
  - tocvsec2, tableof: Verified to work as-is.
  - Added etoc (nullified).
- v0.81:** MATHJAX speedup and additional emulations.
- core
- Improved warning regarding SVG math sizing/baselines and graphics/ graphicx. See section 8.7.
- MATHJAX
- Improved MATHJAX emulation processing speed.
  - Added MATHJAX emulation for accsupp, axessibiltiy, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages
- axessibility: Updated to 2020/01/08 version.
  - gridset: Updated to v0.3.
  - Slunits: Fixed for math mode.
  - Added DotArrow, nolbreaks, luamplib, returntograd, statex2, tagpdf.
  - Verified to work as-is with icomma, mathpunctspace, textualicomma.
- v0.80:** MATHJAX, biblatex.
- MATHJAX
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.7, [Customizing MATHJAX](#).
  - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrl, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
  - Improved MATHJAX emulation for unicode-math.
- packages
- biblatex, url: Now create hyperlinks.

- `amsmath`: Fix to center starred environments.
- `xcolor`, `graphics`: Made more macros robust.
- `colortbl`: Fix: Rule color in a `lateximage`.
- `chemmacros`: Updated to v5.10.
- Added `fewerfloatpages`, `ghsystem`, `hline`, `mismath`, `nccmath`.

**v0.79:** `MATHJAX`, nested `tabular`.

- `MATHJAX`
  - Added or improved `MATHJAX` emulation for `amsmath`, `ar`, `arydshln`, `bm`, `bigdelim`, `bigstrut`, `booktabs`, `braket`, `mathtools`, `multirow`, `physics`, `siunitx`, `slashed`, `unicode-math`, `xfakebold`.
  - Warn if using certain packages not supported by `MATHJAX`.
- `core`
  - `tabular`: Now may be nested.
  - `minipage`, `\parbox`, `fminipage`, `\makebox`, `\framebox`: Fix: Adjust for virtual page size.
  - Uses new `iftex`.
- `packages`
  - `graphicx`: Fix: Negative angles.
  - `caption`: Fix: `\captionlistentry` with `longtable`.
  - `multirow`: Fix: Centered vertical alignment.
  - `siunitx`: Fix: `\square`, `\cubed`.
  - `booktabs`: Fix: `memoir` with `lateximage`.
  - `babel` and `polyglossia`: Added troubleshooting warnings.
  - `fontawesome`, `fontawesome5`: Supports text color and size.
  - `transparent`: Fix: `lateximages`.
  - `epigraph`: Updated to v1.5e.
  - `xurl`: Updated to v0.08.
  - `subcaption`: Fixed with `memoir`.
  - `floatrow`: Fix: `\linewidth`. No longer require `float`, `graphics`.
  - `floatflt`, `wrapfig`, `niceframe`: Fix: Adjust for virtual page size.
  - Added `widetable`, `witharrows`, `steinmetz`.
  - Added `awesomebox`, `catoptions`.
  - Added `svg`, supports `svg-extract`.
  - Added `parcolumns`, `pdfcolparcolumns`,
  - Added `parallel`, `pdfcolparallel`.
  - Added `pdfcol`, `pdfcolfoot`, `pdfcolmk`.

**v0.78:** Fixes for support files, `alt` tags, hyperlinks, and the 2019/10 `LATEX` release.

- `docs`
  - Docs: Improved documentation regarding package options. See section 8.1.
  - Fix to overwrite existing support files using new `filecontents` environment.
- `packages`
  - `breqn`: Previously broken by the 2019/10 `LATEX` update, but now working again.
  - `graphics`: Fix for `\includegraphics alt` tags.
  - `babel-french`: Fix for hyperlinks.
  - `media9`, `movie15`, `multimedia`: Fix for the 2019/10 `LATEX` update.
  - `accessibility`: Added.

**v0.77:** Updates to fix recently-broken packages.

- **booktabs:** Updated to v1.6180339.
- **chemformula:** Updated to v4.15.

**v0.76:** MATHJAX, updates for L<sup>A</sup>T<sub>E</sub>X 2019/10 release.

docs  
MATHJAX  
packages

- **Docs:** Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.
- **MATHJAX:** Updated to v2.7.6.
- **xr:** Updated to v5.05.
- **xr-hyper:** Updated to v6.1.
- Verified works as-is with **xcite**.
- **acro:** Updated to v2.10.
- Currently broken in print mode by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, and waiting for fixes: **breqn**, **grffile**, **multimedia**, **movie15**.

⚠ broken

**v0.75:** keyfloat, wrapfig

packages

- **\minipage:** Fix for **\linewidth**.
- **keyfloat:** Improved color control.
- **wrapfig:** Fix for **\linewidth**.

**v0.74:** Docs, *svg math*, *lwarpmk*, HTML alt and title text, *lyluatex*

docs

- Added to the tutorial the section **What next?**. See section 5.19.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text  
changed names

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagename</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by *lwarp*, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an *svg math* image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

svg math

- Adjusted `\LateximageFontSize` default from .75 to 1.
- Fix: Font control for *svg math*.

misc

- Fix: Ignores negative `\hspace`.
- Warning if `SideTOCDepth < FileDepth`.

*lwarpmk*

- *lwarpmk*: **lwarpmk clean** removes additional files.
- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.

packages

- *lyluatex*: Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with *mathspec*, *unicode-math*.

**v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.

packages

- Fix for `\include`.
- Warning for a `tabular` inside a `<span>`.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
- `koma-script`: Fix for starred captions in the toc.
- `caption`: Fix for starred captions.
- `datatool`: Added pie, bar, and plot charts.
- `threeparttable`: Added `measuredfigure`.
- `intopdf`: Updated to v0.2.1.
- `tocdata`: Updated to v2.03.
- `quotchap`: Updated to v1.2.
- `versonotes`: Updated to v0.4.
- `backnaur`: Now uses SVG images. Updated to v3.1.
- `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
- `fancyvrb`: Fix for label HTML tags.
- Added `stackengine`.
- Added `lyluatex`. (Music scores.)
- `musicography`: Updated to 2019/05/28. Added support for `lateximages`.

music

**v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.

⚠ images

- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using
 

```
Enter ⇒ lwarpmk cleanimages
```

 and
 

```
Enter ⇒ lwarpmk limages
```

packages

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

**v0.71:** Error handling, multimedia, tabular.

- tabular: Added support for ‘\*’ columns. Fix for paragraph tags.
- quotation: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- *lwarpmk*: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages
  - chemfig: Updated for v1.4.
  - endfloat: Updated for v2.7.
  - textpos: Updated for v1.9.1.
- multimedia
  - Added media9, movie15, multimedia.

**v0.70:** Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `lwarpmk limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a `<span>`.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
  - textcomp, xunicode: Fix for `\textinterrobang`.
  - mhchem: Works with MATHJAX. See section 410.
  - changes: Updated to v3.1.2.
  - Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogox`.

**v0.69:** Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for  $(\langle width, height \rangle)$  arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- packages
  - `array`, `longtable`: Fix for `\tabularnewline`.
  - `tabularx`, `tabulary`: Fix to require the `array` package.
  - `supertabular`, `xtab`: Fix to clear caption after use.
  - `graphics`: Added a warning if used the `\includegraphics scale` option.
  - `multirow`: Added an error if didn’t use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
  - `keyfloat`: Updated for v2.00, additional improvements.
  - Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

**v0.68:** Error handling, tabulars, footnotes.

- lwarpmk*
  - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- packages
  - `tabular`: Fix for `\warpprintonly`.
  - `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `lwarp`.

- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcpot`, `fncylab`.

**v0.67:** Filename generation, symbol fonts.

`docs`

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

`filenames`

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- `Core`, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

`packages`

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

**v0.66:** `xr`, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

`lateximage`

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the `jobname`, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options

```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

`filenames`

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

⚠ Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

`WINDOWS`

- Fix for `lwarpmk cleanimages` with `WINDOWS`.

`floats`

- Fixes for floats in the home page.

`lists, table notes`

- Improved css for definition lists, table notes.

`tabular`

- `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.

`indexing`

- `Indexing`: Fix for a long line of multiple entries.

`minipage`

- `\minipagefullwidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors
  - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML
  - Improved HTML output formatting.
- docs
  - Added discussion regarding invalid HTML. See section 8.1.1.
  - Added discussion regarding math in section names, `\imagegraphics` scale option. See section 6.
  - Added discussion regarding international languages in section names. See section 8.14.
- packages
  - `caption`: Fix for options clash.
  - `xr`, `xr-hyper`: Now compatible.
  - `subcaption`: Improved horizontal spacing.
  - `multicol`: Fix for minipage inside `multicols`.
  - `multicolrule`: Updated for v1.2.
  - `tocbasic`: Minor update.
  - `acronym`: Fix for acronym in float caption.
  - `kotexutf`: Patch with *pdflatex* and new lwarp labels.
  - `extramarks`, `fancyhdr`: Updated for v3.10.
  - `memoir`: Added docs regarding version numbers. See section 8.13.
  - `zref`: No longer required.
  - Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
  - Verified to work as-is with `changelog`.
  - Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.
- v0.65:** css layout, alt tags, Japanese.
- page layout
  - Moved the `sidetoc` to the left side, allowing improved css for margin notes.
  - Improved page layout css.
- image alt tags
  - `graphicx \includegraphics`: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
  - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
  - Fix for `tabular*`.
  - Fix for `tabular` border colors.
  - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
  - Added `ltj*` classes, `bounddvi`, `gentombow`, `ltxtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
  - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
  - Added support for `fontspec \textsi` and `\sishape`.
  - Added `multicol's \docolaction`.
  - Added `embrac`, `footnoterange`, `multicolrule`, `versionotes`.



**v0.64:** Koma-Script, Japanese, Chinese.

- Japanese
  - Added `utarticle` and related classes.
  - Improved `ujarticle` and related classes.
- Chinese
  - Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script packages
  - Fixes for `sclayer`, `sclayer-scrpage`.
  - `addlines`: Updated to v0.3.
  - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

**v0.63:** mdframed, Chinese, Japanese, Korean

- localization
  - Added `\linkhomename`: A user-definable name for the **Home** link.
  - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
  - Fix: `\LinkHome` for print output.
- optimizations
  - Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
  - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
  - Fixes for `xeCJK`.
  - Added `xpinyin`, `zhlineskip`.
- Japanese
  - Verified to work with `zsjatype`, `luatexja`, `luatexja-fontspec`.
  - Added `bxjsarticle` and related classes.
  - Added `ltsarticle` and related classes.
  - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
  - Prevented `utarticle` and related classes.
  - Prevented `bcjkatype`.
- Korean
  - Verified to work with `kotex`, `xetexko`, `luatexko`.

**v0.62:** MiKTeX docs, HTML title, CTeX, xeCJK, bitpattern.

- docs
  - Docs: Setting a UTF-8 locale. See section 9.9.
- MiKTeX
  - MiKTeX: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
- HTML <title>
  - HTML subpage titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the HTML `<title>` displays the website name before or after the section name. See section 7.6.
- fixes
  - Fix for package options handling.
  - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
  - Logos: Fix for XeTeX logo, improved css, made robust, improved search-engine optimization.
  - `\[$1]`: Additional HTML `<br>` if `$1 > 0 pt`.
  - Fixes for `\includgraphics` filename, and with `FormatWP`.
  - Fix: css for `\textup`.
  - Fix: Added `\slshape`.
- Chinese
  - Added `ctex` package and related classes, `xeCJK`.
  - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.

## packages

- chemfig: Docs for new macro `\polymerdelim`.
- asymptote: Docs for compilation.
- chngpage: Fix to load `lwarp-changepage`.
- algorithm2e: Fix with non-book classes.
- register: Updated to v1.8.
- nicefrac: Improved font control and css, honors nice and ugly.
- units: Improved font control and css, honors tight and loose.
- xfrac: Improved css.
- textcomp and xunicode: Fix conflicts with `\textcircled`.
- ulem: Improved compatibility with CJKulem, `lateximage`.
- MATHJAX and siunitx: Removed inoperable extension.
- Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
- Added musicography, octave, semantic-markup.
- Added 2in1, flippdf, notespages, rviewport, twoup.

**v0.61:** Custom compilation, EPS-related packages, documentation, indexes.

## docs

- Split index into multiple indexes.
- Improved documentation regarding font selection. See section 7.4.
- Added documentation regarding debugging options. See section 35.
- Added documentation regarding HTML entities inside program listings. See section 8.2.1.

## custom compiling

- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of `lwarp` with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L<sup>A</sup>T<sub>E</sub>X engine, `--shell-escape`, and `lwarp` options. See section 9.

## ⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

## fixes

- Fix: Paragraph tags in a tabular.
- Fix: `supertabular` and `xtab` captions.
- Fix: DVI L<sup>A</sup>T<sub>E</sub>X `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

## packages

- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
- Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

**v0.60:** Fixes for `longtable`, listings.

## fixes

- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- `diagbox`: Fix for incorrect HTML par tags.

## packages

- Added 2up, booklet.
- Added bophook, drafftfigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

**v0.59:** DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

*lwarpmk*

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added
 

```
lwarpmk epstopdf <list-of-EPS-files>
```

 to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI *latex*

- Added support for DVI *latex*. See section 7.5.

*latexmk*

- Fix for `--shell-escape` with *latexmk*.

## math

- Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for nicefrac, units.
- Fix for `\[` and `\]` with `\displaymathnormal`.

## images

- Fix for `\includegraphics` filename expansion.
- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.

## packages

- Moved amsmath out of the lwarp core.
- Fix for chemformula `\NMR`.
- Added asymptote, pdftricks, pstricks, pst-eps.
- Added breqn, Slunits.
- Added bxpapersize, canoniclayout, draftcopy, fnbreak, nccfancyhdr.
- Added accsupp, axessibility.
- Added xunicode.
- Improved and now supports epstopdf.
- Tested to work as-is: eepic, sepfootnotes.

## docs

- Added information about setting up a development version of lwarp.

**v0.58:** Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

*lwarpmk*

- *lwarpmk*: Added the `-p` option to specify the project name.

## glossaries

- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.

## index and glossary

- Added `lwarp` option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.
- Docs: Extra indexing options. See section 8.6.14.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `lwarp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `lwarp` options. See section 7.5.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added `lwarp` option `makeindexStyle` to tell `lwarpmk` to use a custom style instead of `lwarp.ist`. See section 8.6.20.

## misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal `print/HTML` macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.

## packages

- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

**v0.57:** `algorithm2e`, float styles, tabular packages, internal improvements.

## MathJax

## math macros

## dynamic math

- Added support for `MATHJAX` equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.9.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to `SVG` math images even when `MATHJAX` is enabled. See section 8.7.10.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` `HTML alt` tags. For `SVG` math images, the `alt` tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the `alt` tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

 new name

## lateximage alt tags

```
(-xy- diagram)
```

See section 7.6.

## misc. fixes

- Fix: Improved `print/HTML` macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.

- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles ruled and boxed.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

**v0.56:** Shell escape, tabular packages.

- `lwarpmk`
  - Added
    - `lwarpmk pdftosvg <list-of-PDF-files>`
    - to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
  - Added support for `--shell-escape`. See section 7.3.
- `tabular`
  - Added support for array `w` and `W` columns.
  - Fix: `\multicolumn` parameter handling.
  - Added support for double `\hlines`, `\midrules`, and vertical rules.
  - Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.
- `misc. fixes`
  - Fix: `\thinspace`.
  - Fix: `paralist` compact environments.
- `packages`
  - Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
  - Added `bibunits`.
  - Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

**v0.55:** Various fixes.

- `misc fixes`
  - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
  - Fix: Float optional argument regression.
  - Fix: `\ForceHTMLTOC` with `\phantomsection`.
  - Fix: Overfull boxes in `lateximages`.
  - Fix: QED symbols in `lateximage`.
- `packages`
  - `koma-script`: Fix: Figure with `\centering`, etc.
  - Added `clrdblpg`.

**v0.54:** Float `\centering`, improved image checks.



Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.
- `lwarpmk`
  - `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.

BibTeX  
polyglossia

macros in section names  
document encoding  
⚠ New and revised  
encoding options

- *lwarpmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
–	<code>xindyCodepage</code>
–	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with `\centering`, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- L<sup>A</sup>T<sub>E</sub>X core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.

**v0.53:** Improved image checks.

*lwarpmk*

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

**v0.52:** Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X with `fontspec` and traditional font packages. See section 7.4.

SVG math

- Fix: Limit the number of background tasks when generating `Lateximages`.

- Added user-adjustable svg math font scaling. See section 84.3.
  - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
  - Improved `\ensuremath` hashing expansion.
  - Fix: `equation*` with `split`.
  - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
  - Fix: `MATHJAX` script was not executing in some conditions.
  - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- MathJax**
- Fix: Footnote numbering when using `HTMLDebugComments`.
- footnotes**
- Fix: Footnote paragraph tags.
  - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `lateximage`.
  - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
  - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
  - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
  - `nicefrac`: Added with fix for `\ensuremath`.
  - `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
  - `endfloat`: Updated for `v2.6`.
  - `url`: Fixes for active characters.

## 2 Introduction

The `lwarp` project aims to allow a rich `LATEX` document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force `LATEX` to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible `LATEX` concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

---

`lwarp` is a native `LATEX` package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in `LATEX`, `lwarp` has some advantages over other methods of `HTML` conversion. `TEX` itself is still used, allowing a wider range of `TEX` trickery to be understood. `Lua` expressions are still available with `LuaTEX`. Entire categories of `LATEX` packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `TikZ` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent `CTAN` updates, `CTAN` topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.<sup>1</sup>

---

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

---

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

---

<sup>1</sup>An amazing number of decades-old packages are still in use today.



svg images may be used for math, and are also used for `picture`, `TikZ`, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden<sup>2</sup> browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L<sup>A</sup>T<sub>E</sub>X source for the expression, allowing it to be copy/pasted into other documents.<sup>3</sup> Custom L<sup>A</sup>T<sub>E</sub>X macros may be used as-is in math expressions, since the math is evaluated entirely inside L<sup>A</sup>T<sub>E</sub>X. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.<sup>4</sup> `lwarp` maintains L<sup>A</sup>T<sub>E</sub>X control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

---

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L<sup>A</sup>T<sub>E</sub>X-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

`lwarp` automatically generates the extra files necessary for the HTML conversion, such as CSS and `.xdy` files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, `lwarp` first looks to see if it has its own modified version to use instead of the standard L<sup>A</sup>T<sub>E</sub>X version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

---

<sup>2</sup>FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

<sup>3</sup>There seems to be some debate as to whether MathML is actually an improvement over L<sup>A</sup>T<sub>E</sub>X for sharing math. The author has no particular opinion on the matter, except to say that in this case L<sup>A</sup>T<sub>E</sub>X is much easier to implement!

<sup>4</sup>One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

## 2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:


Table 1: Typesetting conventions

<code>package</code>	L <sup>A</sup> T <sub>E</sub> X package.
<i>program</i>	Program's executable name.
<code>option</code>	Program or package option.
<code>filename</code>	File name in the operating system.
<code>BRAND NAME</code>	Proper name for a program, operating system, etc.
<b>commands</b>	Commands to be entered by the user.
<code>code</code>	Program code.
<code>\macroname</code>	L <sup>A</sup> T <sub>E</sub> X macro.
<code>environment</code>	L <sup>A</sup> T <sub>E</sub> X environment.
<code>counter</code>	L <sup>A</sup> T <sub>E</sub> X counter.
<code>boolean</code>	L <sup>A</sup> T <sub>E</sub> X boolean.
<code>&lt;element&gt;</code>	HTML element.
<code>attribute</code>	HTML attribute.
<b>User Interface</b>	A user-interface item.
<code>ACRO</code>	Acronym.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**index entries**

Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

## 2.2 Supported packages and features

Table 2 lists some of the various L<sup>A</sup>T<sub>E</sub>X features and packages which may be used.

Package names are colored according to their support level:

**name:** Supported as-is.

**name:** Modified to work with HTML output, and perhaps also as print output in SVG math or `lateximage` environments.

**name:** Emulated for HTML output.

**name:** Ignored for HTML output, but provides source-level compatibility.

**MJ:** Supported as-is for MATHJAX, subject to limitations.

**MJ:** Emulated for MATHJAX using custom macros, subject to limitations.

**MJ:** Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L<sup>A</sup>T<sub>E</sub>X lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L <sup>A</sup> T <sub>E</sub> X, PDF L <sup>A</sup> T <sub>E</sub> X, X <sub>Y</sub> L <sup>A</sup> T <sub>E</sub> X, LuaL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> X
L <sup>A</sup> T <sub>E</sub> X compiling:	<i>latexmk</i> , <i>make</i> , etc.
External compiling:	<i>perltex</i> , <i>pythontex</i> , <i>symptex</i>
Classes:	article, book, report, scrartcl, scrbook, screprpt, memoir, CJK-related as listed below.
Koma-script:	<b>scxextend</b> , <b>scrhack</b> , <b>sclayer</b> . Others as listed below.
Memoir:	memhfixc
Beamer:	<b>beamerarticle</b> , but not the beamer class.
Languages:	<b>babel</b> , <b>ckjpunct</b> , <b>imprnatypo</b> , <b>luavlina</b> , <b>polyglossia</b> , <b>xeCJK</b> , <b>xevlina</b> .
Chinese:	C <sub>T</sub> E <sub>X</sub> , <b>ctex</b> , <b>upzhkinsoku</b> , <b>xpinyin</b> , <b>zhlineskip</b> , <b>zhspacing</b> .
Japanese:	upL <sup>A</sup> T <sub>E</sub> X, LuaT <sub>E</sub> X-ja, <b>gentombow</b> , <b>lltjext</b> , <b>plarray</b> , <b>plarydshln</b> , <b>plautopatch</b> , <b>plext</b> , <b>plextarray</b> , <b>plextarydshln</b> , <b>plextcolortbl</b> , <b>plextdelarray</b> , <b>pxatbegshi</b> , <b>pxeveryshi</b> , <b>pxftnright</b> , <b>pxgentombow</b> , <b>pxjahyper</b> , <b>pxpdfpages</b> , <b>pxpgfrcs</b> , <b>pxpgfmark</b> , <b>tascmac</b> , <b>zxjatype</b> . <b>bxjsarticle</b> and related, <b>ltjsarticle</b> and related, <b>luatexja</b> , <b>luatexja-fontspec</b> , <b>ujarticle</b> and related, <b>utarticle</b> and related.
Korean:	<b>kotex</b> , <b>luatexko</b> , <b>xetexko</b> .

Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, <a href="#">atbegshi</a> , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, <a href="#">changelayout</a> , <a href="#">changepage</a> , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, <a href="#">fancyhdr</a> , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, <a href="#">grid-system</a> , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, <a href="#">parallel</a> , <a href="#">parcolumns</a> , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, <a href="#">ragged2e</a> , returntograd, rmpage, <a href="#">sclayer-scrpage</a> , <a href="#">scrpage2</a> , <a href="#">setspace</a> , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. <a href="#">anonchap</a> , bsheaders, <a href="#">decorule</a> , fncychap, <a href="#">froufrou</a> , <a href="#">hypbmsec</a> , <a href="#">indentfirst</a> , <a href="#">quotchap</a> , section, <a href="#">sectionbreak</a> , <a href="#">secdot</a> , sectsty, titlesec, <a href="#">tocvsec2</a> .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, <a href="#">shorttoc</a> , <a href="#">tableof</a> , titletoc, tocbasic, <a href="#">tocbibind</a> , <a href="#">tocdata</a> , tocloft, tocstyle, <a href="#">tocvsec2</a> .
Title page:	\maketitle, titlepage, <a href="#">authblk</a> , <a href="#">authaftertitle</a> , <a href="#">titling</a> .
Front & back matter:	<a href="#">abstract</a> , <a href="#">appendix</a> .
Indexing:	<a href="#">makeindex</a> , <a href="#">xindy</a> , and <a href="#">xindex</a> are supported, with hyperlinks. <a href="#">gindex</a> , <a href="#">hvindex</a> , <a href="#">idxlayout</a> , <a href="#">imakeidx</a> , <a href="#">index</a> , <a href="#">makeidx</a> , <a href="#">repeatindex</a> , <a href="#">splitidx</a> , <a href="#">varindex</a> , <a href="#">xindex</a> .
Glossary:	<a href="#">gloss</a> , <a href="#">glossaries</a> and <a href="#">xindy</a> , <a href="#">nomencl</a> .
Bibliography:	<a href="#">babelbib</a> , <a href="#">bibtopic</a> , <a href="#">backref</a> , <a href="#">biblatex</a> , <a href="#">bibunits</a> , <a href="#">chapterbib</a> , <a href="#">cite</a> , <a href="#">citeref</a> , <a href="#">collref</a> , <a href="#">drftcite</a> , <a href="#">hypnat</a> , <a href="#">jurabib</a> , <a href="#">mcite</a> , <a href="#">mciteplus</a> , <a href="#">multibib</a> , <a href="#">natbib</a> , <a href="#">notes2bib</a> , <a href="#">splitbib</a> , <a href="#">showtags</a> .
Cross-references:	<a href="#">bookmark</a> , <a href="#">breakurl</a> , <a href="#">cleveref</a> , <a href="#">fancyref</a> , <a href="#">hypdestopt</a> , <a href="#">hyperref</a> , <a href="#">perpage</a> , <a href="#">prettyref</a> , <a href="#">titleref</a> , <a href="#">url</a> , <a href="#">varioref</a> , <a href="#">xcite</a> , <a href="#">xr</a> , <a href="#">xr-hyper</a> , <a href="#">xurl</a> , <a href="#">zref</a> .
Margin notes:	<a href="#">marginal</a> , <a href="#">marginfit</a> , <a href="#">marginfix</a> , <a href="#">sclayer-notecolumn</a> , <a href="#">versonotes</a> .

Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: <code>bigfoot</code> , <code>dblfnote</code> , <code>endheads</code> , <code>endnotes<sup>MJ</sup></code> , <code>enotez<sup>MJ</sup></code> , <code>fixfoot</code> , <code>fnbreak</code> , <code>fnpara</code> , <code>fnpct</code> , <code>fnpos</code> , <code>footmisc</code> , <code>footnote</code> , <code>footnotebackref</code> , <code>footnoterange</code> , <code>footnpag</code> , <code>manyfoot</code> , <code>marginnote<sup>MJ</sup></code> , <code>nccfoots<sup>MJ</sup></code> , <code>pagenote<sup>MJ</sup></code> , <code>parnotes<sup>MJ</sup></code> , <code>pdfcolfoot</code> , <code>pfnote</code> , <code>sepfootnotes</code> , <code>sidenotes<sup>MJ</sup></code> , <code>tablefootnote</code> .
Math:	Converted to SVG images with HTML <code>&lt;alt&gt;</code> tags containing the L <sup>A</sup> T <sub>E</sub> X source for the math expression. MATHJAX supported as an alternative. <code>amsmath<sup>MJ</sup></code> : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native L <sup>A</sup> T <sub>E</sub> X processing.
Theorems:	Native L <sup>A</sup> T <sub>E</sub> X theorems, <code>amsthm</code> , <code>apxproof</code> , <code>ntheorem</code> , <code>shadethm</code> , <code>theorem</code> , <code>thmbox</code> , <code>thmtools</code> .
Additional math:	Math fonts via SVG images, <code>accents<sup>MJ</sup></code> , <code>amscd<sup>MJ</sup></code> , <code>amscdx</code> , <code>autobreak<sup>MJ</sup></code> , <code>autonum</code> , <code>backnaur<sup>MJ</sup></code> , <code>bm<sup>MJ</sup></code> , <code>braket<sup>MJ</sup></code> , <code>breqn<sup>MJ</sup></code> , <code>bussproofs<sup>MJ</sup></code> , <code>cases<sup>MJ</sup></code> , <code>centernot<sup>MJ</sup></code> , <code>cmbright<sup>MJ</sup></code> , <code>colonequals<sup>MJ</sup></code> , <code>decimal<sup>MJ</sup></code> , <code>delarray</code> , <code>DotArrow<sup>MJ</sup></code> , <code>dotlessi<sup>MJ</sup></code> , <code>dotlessj<sup>MJ</sup></code> , <code>esvect<sup>MJ</sup></code> , <code>extrarrows<sup>MJ</sup></code> , <code>fixmath<sup>MJ</sup></code> , <code>fouridx<sup>MJ</sup></code> , <code>fourier<sup>MJ</sup></code> , <code>guass</code> , <code>hhtensor<sup>MJ</sup></code> , <code>icomma<sup>MJ</sup></code> , <code>isomath<sup>MJ</sup></code> , <code>jkmath</code> , <code>kpfonts<sup>MJ</sup></code> , <code>kpfonts-otf<sup>MJ</sup></code> , <code>leftidx<sup>MJ</sup></code> , <code>libertinust1math<sup>MJ</sup></code> , <code>mathalpha<sup>MJ</sup></code> , <code>mathastext<sup>MJ</sup></code> , <code>mathcomp<sup>MJ</sup></code> , <code>mathdesign<sup>MJ</sup></code> , <code>mathdots<sup>MJ</sup></code> , <code>mathfixs<sup>MJ</sup></code> , <code>mathpazo<sup>MJ</sup></code> , <code>mathptmx<sup>MJ</sup></code> , <code>mathpunctspace<sup>MJ</sup></code> , <code>mathspec<sup>MJ</sup></code> , <code>mathtools<sup>MJ</sup></code> , <code>mattens<sup>MJ</sup></code> , <code>maybemath<sup>MJ</sup></code> , <code>mdwmath<sup>MJ</sup></code> , <code>mismath<sup>MJ</sup></code> , <code>mleftright<sup>MJ</sup></code> , <code>multiobjective<sup>MJ</sup></code> , <code>nccmath<sup>MJ</sup></code> , <code>nicematrix<sup>MJ</sup></code> , <code>noitcrl<sup>MJ</sup></code> , <code>newpxmath<sup>MJ</sup></code> , <code>newtxmath<sup>MJ</sup></code> , <code>newtxsf<sup>MJ</sup></code> , <code>pb-diagram</code> , <code>pxfonts<sup>MJ</sup></code> , <code>resizegather<sup>MJ</sup></code> , <code>rmathbr<sup>MJ</sup></code> , <code>scalrel<sup>MJ</sup></code> , <code>shuffle<sup>MJ</sup></code> , <code>skmath<sup>MJ</sup></code> , <code>stackrel<sup>MJ</sup></code> , <code>statex2<sup>MJ</sup></code> , <code>statistics</code> , <code>statmath<sup>MJ</sup></code> , <code>subsupscripts<sup>MJ</sup></code> , <code>tensind</code> , <code>tensor<sup>MJ</sup></code> , <code>textualicomma<sup>MJ</sup></code> , <code>txfonts<sup>MJ</sup></code> , <code>txgreeks<sup>MJ</sup></code> , <code>unicode-math<sup>MJ</sup></code> , <code>upgreek<sup>MJ</sup></code> , <code>ushort<sup>MJ</sup></code> , <code>witharrows<sup>MJ</sup></code> , <code>xfakebold<sup>MJ</sup></code> , <code>xy</code> . Many others work as-is.
Display math with <code>\displaymath</code> or <code>other</code> :	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac<sup>MJ</sup></code> , <code>Slunits<sup>MJ</sup></code> , <code>siunitx<sup>MJ</sup></code> , <code>units<sup>MJ</sup></code> , <code>unitsdef</code> , <code>xfrac<sup>MJ</sup></code> .

Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .
Tabular:	<code>tabular</code> environment, <code>array</code> <sup>MJ</sup> , <code>arydshln</code> <sup>MJ</sup> , <code>bigdelim</code> <sup>MJ</sup> , <code>bigstrut</code> <sup>MJ</sup> , <code>booktabs</code> <sup>MJ</sup> , <code>colortbl</code> <sup>MJ</sup> , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline</code> <sup>MJ</sup> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow</code> <sup>MJ</sup> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to svg, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an svg image.  <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image-labels</code> , <code>xy</code>
xcolor:	Full package color names, any color models, and <code>mixing</code> . <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L <sup>A</sup> T <sub>E</sub> X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L <sup>A</sup> T <sub>E</sub> X environments.
Paragraphs, minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox</code> <sup>MJ</sup> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> <sup>MJ</sup> , <code>vertbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .

Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> <sup>MJ</sup> , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize</code> <sup>MJ</sup> , <code>scalegnt</code> , <code>seqsplit</code> <sup>MJ</sup> , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with <code>width</code> , <code>height</code> , <code>raise</code> , <code>text color</code> .
HTML reserved characters:	<code>\&amp;</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
<hr/>	
Fonts:	Used as-is. Appear in <code>svg</code> math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssex-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssex-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.
Symbols:	Native $\text{\LaTeX}$ diacriticals, <code>academicons</code> , <code>amssymb</code> <sup>MJ</sup> , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> <sup>MJ</sup> , <code>latexsym</code> <sup>MJ</sup> , <code>marvosym</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> <sup>MJ</sup> , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
<hr/>	
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .
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Science and engineering:	algorithm2e, algorithmicx, ar <sup>MJ</sup> , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics <sup>MJ</sup> , elements, engtlc <sup>MJ</sup> , fast-diagram, ghsystem, hepnicensnames, heppennames, hepunits <sup>MJ</sup> , isotope <sup>MJ</sup> , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem <sup>MJ</sup> , minted, pgfgantt, phfqit, physics <sup>MJ</sup> , physunits <sup>MJ</sup> , plimsoll <sup>MJ</sup> , qcircuit, register, simplebnf, simpler-wick, slashed <sup>MJ</sup> , steinmetz <sup>MJ</sup> , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Academic:	academicons, classicthesis, doi, doipubmed, orcidlink <sup>MJ</sup> , termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment <sup>MJ</sup> , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility <sup>MJ</sup> , accsupp <sup>MJ</sup> , aessibility <sup>MJ</sup> , pdfcomment <sup>MJ</sup> , repltext <sup>MJ</sup> , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

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### 3 Alternatives

Summarized below are several other ways to convert a  $\text{\LaTeX}$  or other document to  $\text{\HTML}$ . Where an existing  $\text{\LaTeX}$  document is to be converted to  $\text{\HTML}$ , `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

#### 3.1 internet class

`internet` (*Cls*) The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of markdown, and also  $\text{\HTML}$  and  $\text{\EPUB}$ . <https://github.com/loopspace/latex-to-internet>

#### 3.2 $\text{\TeX4HT}$

`TeX4ht` (*Prog*) <http://tug.org/tex4ht/>

`htlatex` (*Prog*)

This system uses native  $\text{\LaTeX}$  processing to produce a  $\text{\DVI}$  file containing special commands, and then uses additional post-processing for the  $\text{\HTML}$  conversion by way of numerous configuration files. In some cases `lwarp` provides a better  $\text{\HTML}$  conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond  $\text{\HTML}$ , including  $\text{\ODT}$  and a direct path to  $\text{\EPUB}$ , and is still being developed.

#### 3.3 Translators

These systems use external programs to translate a subset of  $\text{\LaTeX}$  syntax into  $\text{\HTML}$ . Search for each on  $\text{\CTAN}$  (<http://ctan.org>).

`Hevea` (*Prog*) **H<sup>E</sup>v<sup>E</sup>a**: <http://hevea.inria.fr/> (not on  $\text{\CTAN}$ )

`TtH` (*Prog*) **T<sub>T</sub>H**: <http://hutchinson.belmont.ma.us/tth/>

`GELLMU` (*Prog*) **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

`LaTeXML` (*Prog*)  **$\text{\LaTeXML}$** : <http://dlmf.nist.gov/LaTeXML/>

`Plastex` (*Prog*) **PlasTeX**: <https://github.com/tiarno/plastex>

`LaTeX2HTML` (*Prog*)  **$\text{\LaTeX2HTML}$** : <http://www.latex2html.org/>  
and <http://ctan.org/pkg/latex2html>.

`TeX2page` (*Prog*)  **$\text{\TeX2page}$** : <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may be used to directly insert  $\text{\LaTeX}$  math into  $\text{\HTML}$ :

`GladTeX` (*Prog*) **GladTeX**: <http://humenda.github.io/GladTeX/>

### 3.4 ASCIIDOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L<sup>A</sup>T<sub>E</sub>X and HTML.

AsciiDoc (*Prog*) **Asciidoctor:** <http://asciidoctor.org/> (More active.)

AsciiDoctor (*Prog*) **AsciiDoc:** <http://asciidoc.org/> (The original project.)

#### 3.4.1 ASCIIDOCTOR-L<sup>A</sup>T<sub>E</sub>X

The AsciiDoctor-LaTeX project is developing additional L<sup>A</sup>T<sub>E</sub>X-related features.

##### Asciidoctor-LateX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Asciidoctor-LaTeX (*Prog*) <https://github.com/asciidoctor/asciidoctor-latex>

### 3.5 PANDOC

Pandoc (*Prog*) A markup system which also reads and writes L<sup>A</sup>T<sub>E</sub>X and HTML.

**Pandoc:** <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

### 3.6 Word processors

Word (*Prog*) It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L<sup>A</sup>T<sub>E</sub>X-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. LibreOffice (*Prog*) OpenOffice (*Prog*) See recent developments in MICROSOFT<sup>®</sup> *Word*<sup>®</sup> and LIBREOFFICE<sup>™</sup> *Writer*.

### 3.7 Commercial systems

Adobe (*Prog*) Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See FrameMaker (*Prog*) ADOBE<sup>®</sup> *FrameMaker*<sup>®</sup>, ADOBE *InDesign*<sup>®</sup>, and MADCAP *Flare*<sup>™</sup>. InDesign (*Prog*)

Flare (*Prog*)

Madcap (*Prog*)

### 3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L<sup>A</sup>T<sub>E</sub>X spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster

entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L<sup>A</sup>T<sub>E</sub>X is comparably easy to learn, while L<sup>A</sup>T<sub>E</sub>X provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L<sup>A</sup>T<sub>E</sub>X vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L<sup>A</sup>T<sub>E</sub>X back end, yielding high-quality results especially when the L<sup>A</sup>T<sub>E</sub>X template is adjusted, but they lose the ability to use L<sup>A</sup>T<sub>E</sub>X macros and other L<sup>A</sup>T<sub>E</sub>X source-document features.

The effort required to customize the output of each markup system varies. For print output, L<sup>A</sup>T<sub>E</sub>X configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, CSS is used, and much HTML output is adjusted through the usual L<sup>A</sup>T<sub>E</sub>X optional macro parameters, but further customization may require patching L<sup>A</sup>T<sub>E</sub>X code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

## 4 Installation

Table 3 shows the tools which are used for the L<sup>A</sup>T<sub>E</sub>X to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

**Provided by your L<sup>A</sup>T<sub>E</sub>X distribution:**

From T<sub>E</sub>XLive: <http://tug.org/texlive/>.

**L<sup>A</sup>T<sub>E</sub>X:** *pdflatex*, *xelatex*, or *lualatex*.

**The lwarp package:** This package.

**The *lwarpmk* utility:** Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L<sup>A</sup>T<sub>E</sub>X code. On a M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

**POPPLER PDF utilities:**

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> provides *miktex-poppler-bin-\** packages.

From POPPLER: [poppler.freedesktop.org](http://poppler.freedesktop.org).

For MACOS<sup>®</sup>, see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> *miktex-poppler-bin-\**, or:

<https://sourceforge.net/projects/poppler-win32/> and:  
<http://blog.alivate.com.au/poppler-windows/>

**Perl:**

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

[strawberryperl.com](http://strawberryperl.com) (recommended), [perl.org](http://perl.org)

**Automatically downloaded from the internet as required:**

**MATHJAX:** Optionally used to display math. From: [mathjax.org](http://mathjax.org)

## 4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

**Pre-installed:** Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

**TeX Live:** If using a TeX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

**MiKTeX:**

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

**Operating-system package:** The operating-system package manager may already have lwarp, perhaps as part of a set of TeX-related packages.

**CTAN TDS archive:** lwarp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TeX local directory:

**TeX Live:**

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

**MiKTeX:**

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— OR —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

**CTAN .dtx and .ins files:** Another form of TeX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive lwarp.zip into your own lwarp directory.
3. Unpack lwarp.zip.

4. Locate the contents `lwarp.dtx` and `lwarp.ins`

5. Create the `.sty` files:

```
Enter ⇒ pdflatex lwarp.ins
```

6. Create the documentation:

---

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

---

7. Copy the `.sty` files somewhere such as the T<sub>E</sub>X Live local tree found in the previous CTAN TDS section, under the subdirectory:

```
<texlocal>/tex/latex/local/lwarp
```

8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.

9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:

```
<texlocal>/doc/local/lwarp
```

10. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiK<sub>T</sub>E<sub>X</sub>, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of *lwarpmk*.

12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

**Project-local CTAN `.dtx` and `.ins` files:** The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test *lwarp* before deciding whether to permanently install it.

Just testing!

## 4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the *lwarp* package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK<sub>T</sub>E<sub>X</sub>, try updating the `miktex-misc` package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T<sub>E</sub>X Live or MiK<sub>T</sub>E<sub>X</sub> system you may use

Enter ⇒ `kpsewhich lwarpmk.lua`

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

**Unix:** Create a symbolic link and make it executable:

- (a) Locate the T<sub>E</sub>X Live binaries:

Enter ⇒ `kpsewhich -var-value TEXMFROOT`

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter ⇒ `ln -s <path to lwarpmk.lua> lwarpmk`

- (c) Make the link executable:

Enter ⇒ `chmod 0755 lwarpmk`

**WINDOWS T<sub>E</sub>X Live:** Create a new `lwarpmk.exe` file:

- (a) Locate the T<sub>E</sub>X Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

**WINDOWS MiK<sub>T</sub>E<sub>X</sub>:** Create a new `lwarpmk.bat` file:

- (a) Locate the MiK<sub>T</sub>E<sub>X</sub> binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

### 4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:



**Unix:**

(a) Make `lwarpmk.lua` executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

(b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

(c) It may be useful to rename or link to a version without the `.lua` suffix.

**WINDOWS:**

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

### 4.3 Installing additional utilities

**To test for the existence of the additional utilities:**

Enter the following in a command line. If each program's version is displayed, then that utility is already installed. See table 3 on page 77.

Enter ⇒ `luatex --version`

Enter ⇒ `xindy --version`

Enter ⇒ `latexmk --version`

Enter ⇒ `perl --version`

Enter ⇒ `pdfcrop --version`

Enter ⇒ `pdftotext -v`

Enter ⇒ `pdfseparate --version`

Enter ⇒ `pdftocairo -v`

**To install *xindy*, *latexmk*, and *pdfcrop*:**

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the CTAN archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

**To install the POPPLER utilities to a UNIX/LINUX system:**

The tools from the POPPLER project should be provided by your operating system's package manager.

**To install the POPPLER utilities to a MACOS machine:**

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

pdftotext (*Prog*) [requirement]

pdfseparate (*Prog*) [requirement]

pdftocairo (*Prog*) [requirement]

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

#### To install the POPPLER utilities to a WINDOWS machine:

If using MikTEX, install a miktex-poppler-bin-\* package. Otherwise:

1. See table 3 on page 77.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:  
C:\Users\\Desktop\Poppler\poppler-0.5\_x86\poppler-0.5\bin  
Be sure to include \bin.
9. Click **Ok** when done.

#### perl (Prog) [requirement] To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:  
C:\Strawberry\perl\bin  
Be sure to include \bin.
4. Click **Ok** when done.

**Any utilities installed by hand must be added to the PATH.**

## 5 Tutorial

This section shows an example of how to create an `lwarp` document.

Need help?

---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

### 5.1 Starting a new project

1. Create a new project directory called `tutorial`.

`tutorial.tex` (*file*)

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

**Copy from the documentation PDF:**

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

**Copy from the lwarp documentation directory:**

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

`lwarp_tutorial.txt` (*file*)

⚠ Note: `.txt` suffix!

*When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.*

⚠ Bad formatting!

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(*xelatex* or *lualatex* may be used as well. `lwarp` also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L<sup>A</sup>T<sub>E</sub>X engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,       % Language for xindy index, glossary.
% latexmk,                     % Use latexmk to compile.
% OSWindows,                   % Force Windows. (Usually automatic.)
% mathjax,                     % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}

\begin{document}

\maketitle % Or titlepage/titlingpage environment.
```

```

% An article abstract would go here.

\tableofcontents           % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

- tutorial.pdf:** The PDF output from L<sup>A</sup>T<sub>E</sub>X. The print version of the document.
- tutorial\_html.tex:** A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
- Auxiliary files:** The usual L<sup>A</sup>T<sub>E</sub>X files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, \_html versions of the auxiliary files will also be generated.
- lwarpmk.conf:** A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.
- tutorial.lwarpmkconf:** Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.
- .css files:** *lwarp.css*, *lwarp\_formal.css*, *lwarp\_sagebrush.css* These files are standard for *lwarp*, and are not meant to be modified by the user.
- sample\_project.css:** An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.
- lwarp.ist:** Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp.xdy:** Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp\_one\_limage.txt:** For WINDOWS only. Used to process SVG images in the background. Copied to *lwarp\_one\_limage.cmd* when images are generated.
- lwarp\_mathjax.txt:** Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.
- comment\_\*.cut:** Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

---

When the *lwarpmk* option is given to the *lwarp* package:

**lwarpmk.lua:** A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

## 5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

### △ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Re-compile the print version:

Enter ⇒ **lwarpmk print**

*lwarpmk* prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.

4. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.<sup>5</sup>

6. Process the index.<sup>6 7</sup>

Enter ⇒ **lwarpmk printindex**

7. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

8. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

<sup>5</sup>Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

<sup>6</sup>The command `lwarpmk printglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

<sup>7</sup>Also see section 8.6.15 for index options.

### 5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

#### ⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

```
Enter ⇒ lwarpmk html
```

- (a) *lwarpmk* uses L<sup>A</sup>T<sub>E</sub>X to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`<sup>8</sup>, `Some-math.html`, and the document's index in `_Index.html`.<sup>9</sup>

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

#### math images

Note that math images have not yet been generated, so math is still displayed as its `alt` tag, which is set to the plain-text L<sup>A</sup>T<sub>E</sub>X source for that expression. Math may be displayed as SVG images (section 5.4) or by a MATHJAX script (section 5.5).

4. Force a recompile:

```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

5. Process the HTML index and recompile:<sup>1011</sup>

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

`_Index.html` is updated for the new L<sup>A</sup>T<sub>E</sub>X index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

```
Enter ⇒ lwarpmk html1
```

<sup>8</sup>`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

<sup>9</sup>`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

<sup>10</sup>The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

<sup>11</sup>Also see section 8.6.15 for index options.



## 5.4 Generating the SVG images

**math as SVG images** By default `lwarp` represents math as SVG images, with the  $\LaTeX$  source included in `alt` attributes. In this way, the math is displayed as it was drawn by  $\LaTeX$ , and the  $\LaTeX$  source may be copied and pasted into other documents.


**picture and TikZ** `lwarp` uses the same mechanism for `picture` and `TikZ` environments.

1. Create the SVG images:


```
Enter ⇒ lwarpmk limages
```


```
Enter ⇒ lwarpmk html
```

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the  $\LaTeX$  source.

 **adding/removing** When a math expression, `picture`, or `TikZ` environment is added or removed, the SVG images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as `TikZ` may move to new image numbers when the document is changed.


**recompile first** Before attempting to create the SVG image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.<sup>12</sup> If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the  $\LaTeX$  recompile warnings.

 **HTML instead of images** If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as SVG images has the advantage of representing the math exactly as  $\LaTeX$  would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its  $\LaTeX$  source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

<sup>12</sup>This becomes important when dealing with a document containing thousands of images.

## 5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L<sup>A</sup>T<sub>E</sub>X source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L<sup>A</sup>T<sub>E</sub>X, and it may not support some math-related packages.

## 5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSfilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSfilename{lwarp_sagebrush.css}
```

See section 7.7 for more information about modifying the css styling of the document.

## 5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section 7.6 for more information.

## 5.8 Using *latexmk*

*latexmk* is a L<sup>A</sup>T<sub>E</sub>X utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

*lwarp* updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

[forced single-pass recompile](#)

## 5.9 Using Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX

Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX may be used instead of L<sup>A</sup>T<sub>E</sub>X.

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— or —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which T<sub>E</sub>X engine was used. Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

## 5.10 Using DVI L<sup>A</sup>T<sub>E</sub>X


Traditional DVI L<sup>A</sup>T<sub>E</sub>X may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

## 5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

### 5.11.1 `gloss` package

See section [8.6.11](#).

### 5.11.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.12](#) to set options for processing glossaries.

## 5.12 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

## 5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

## 5.14 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, tikz, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

## 5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. `pdftocairo` and `epstopdf` may be used one image at a time, but `lwarpmk` also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```


Be sure to always provide SVG files for HTML output.

## 5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

## 5.17 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. `lwarpmk` has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarpmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

## 5.18 Using the *make* utility

*lwarpmk* has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

*make* may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.



## 5.19 What next?

**How do I do something?** See the [General Index](#).

**Something do not work!** See the [Troubleshooting Index](#) or section [13: Troubleshooting](#).

**Package options:** See section [29, Package options](#).

**HTML and filename settings:** See section [7.6, Customizing the HTML output](#).

**Footnote placement:** See section [7.6, Customizing the HTML output](#).

**Title page, indexing, glossaries:** See section [8.6, Front and back matter](#).

**Shell escape:** See section [7.3, Shell escape](#).

**css customization:** See section [7.7, Customizing the css](#).

**MATHJAX customization:** See section [8.7.7, Customizing MATHJAX](#).

**Localization:** (languages) — See section [7.1, Localization](#).

**Accessibility:** (alt and title tags) — See section [7.2, Accessibility](#).

**Converting an existing document:** See section [6, Converting an existing document](#).

**EPUB conversion:** See section [10, EPUB conversion](#).

**Word processor conversion:** See section [11, Word-processor conversion](#).

## 6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

- (b) Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 8.10.1.

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

- (f) If using `indexes`, see section 8.6.15.

- (g) If using many `indexes`, `glossaries`, `.aux` files, etc., see section 8.6.15 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `TikZ`, etc.

---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

Need help?

⚠ math in section names

⚠ scale

⚠ tabular

⚠ package options

⚠ indexes

Table 5: Localization settings

**Object names:** L<sup>A</sup>T<sub>E</sub>X provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

**`\abstractname`:** This macro is honored by lwarp.

**`\linkhomename`:** Displayed by the link to the homepage.

**`\linkpreviousname`:** Displayed by the link to the previous page

**`\linknextname`:** Displayed by the link to the next page.

**`\sitetocname`:** Displayed at the head of the sidenav.

**HTML settings:** See table 8 and section 7.6 for details.

**`\HTMLLanguage`:** The language to declare for each web page.

**`\ImageAltText`, `\MathImageAltText`, `\PackageDiagramAltText`,  
`\AltTextOpen`, `\AltTextClose`:** The defaults used for HTML alt text for images. See section 7.2.

**`\CSSFilename`:** The name of the css file to use.

**`\MathJaxFilename`:** The name of the MATHJAX script to use.

**Package options:**

**`ImagesName` and `ImagesDirectory`:** These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

**`xindyStyle`, `xindyLanguage`, `xindyCodepage`:** When using *xindy*, these options may be set according to local use. See section 8.6.21.

**`pdftotextEnc`:** To adjust the encoding of *pdftotext*.

## 7 Additional details

### 7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

### 7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

**\ImageAltText:** The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

**\includegraphics alt key:** For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

**svg math:** For simple svg math, `lwarp` places the L<sup>A</sup>T<sub>E</sub>X math expression in the alt text, so that the L<sup>A</sup>T<sub>E</sub>X expression may be copied and pasted to another document as plain text.

**\MathImageAltText:** For complicated svg math, such as enclosed in `\InlineMathOther`/`\InlineMathNormal`, or `\DisplayMathOther`/`\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

**MATHJAX:** For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

**\PackageDiagramAltText:** Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

**\ThisAltText:** The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

**\AltTextOpen and \AltTextClose:** By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

### 7.3 Shell escape

`-\\-shell-escape` (*Opt*) Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

### 7.4 Font and UTF-8 support

⚠ **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

**vector fonts** While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

Computer Modern

⚠ `pdflatex`

⚠ `DVI latex`  
`cm-super` (*Pkg*)

To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

`lmodern` (*Pkg*) To use Latin Modern instead, add

```
usepackage{lmodern}
```

to the preamble.

`dejavu` (*Pkg*) Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

`latex`, `pdflatex`, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

⚠ `xelatex`, `lualatex`, `fontspec` X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

⚠ **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X:

`fontspec` (*Pkg*)

– `fontspec` and font choices

**ligatures**

`lwarp` sets the following to turn off T<sub>E</sub>X ligatures during the generation of HTML tags, and turn off common ligatures in regular text,


since older browsers may not display them correctly and newer browsers can automatically re-create them.

---

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

---

- For *pdf<sub>l</sub>atex*:

<code>lmodern</code> ( <i>Pkg</i> )	(a) <code>\usepackage{lmodern}</code> , or other font-related packages
<code>fontenc</code> ( <i>Pkg</i> )	(b) <code>\usepackage[T1]{fontenc}</code>
<code>inputenc</code> ( <i>Pkg</i> )	(c) <code>\usepackage[utf8]{inputenc}</code> , or <code>latin1</code> , etc. Or use <code>inputenx</code> .
<code>inputenx</code> ( <i>Pkg</i> )	(d) <code>\usepackage{newunicodechar}</code> along with related definitions.
<code>newunicodechar</code> ( <i>Pkg</i> )	(e) To assist with the PDF-HTML conversion:
<code>glyphtounicode.tex</code> ( <i>file</i> )	<ul style="list-style-type: none"> <li>i. <code>\input glyphtounicode.tex</code></li> <li>ii. <code>\input glyphtounicode-cmr.tex</code>% from the <code>pdfx</code> package</li> <li>iii. <code>\pdfgentounicode=1</code></li> </ul>
 <b>dotless j</b>	(f) Another option to assist with the PDF-HTML conversion, such as the dotless j ( <code>\j</code> ):
<code>cmap</code> ( <i>Pkg</i> )	– <code>\usepackage{cmap}</code> — <i>or</i> —
<code>mmap</code> ( <i>Pkg</i> )	– <code>\usepackage{mmap}</code> — <i>or</i> —
<code>textcomp</code> ( <i>Pkg</i> )	– <code>\usepackage[noTeX]{mmap}</code>
	(g) <code>\usepackage{textcomp}</code>

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

 **fontspec with monospaced fonts**

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
...
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

 **JETBRAIN MONO**  
 **HTML corrupted**

 **UTF-8 locale** In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

### 7.4.1 Indexes, glossaries, and encoding

`lwarp` supports `makeindex`, `xindy`, `xindex`, and `glossaries`, `gloss`, and `nomencl`.

See section 8.6.14 for indexing, and section 8.6.12 for the `glossaries` package.

## 7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent KOMA-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

lwarp (*Pkg*) lwarp package options are as follows:

`mathsvg` (*Opt*) **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

`mathjax` (*Opt*)

Default: `mathsvg`

`latexmk` (*Opt*) **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: `false`

`dvips` (*Opt*) **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: `false`

`dvipdfm` (*Opt*) **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: `false`

`dvipdfmx` (*Opt*) **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: `false`

`HomeHTMLFilename` (*Opt*) **HomeHTMLFilename**:

Default: `\BaseJobname`

Filename of the homepage, without the “.html” suffix. Defaults to the `\BaseJobname`. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file `index.html`. Underscores are allowed in `HomeHTMLFilename` and `HTMLFilename` options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

`HTMLFilename` (*Opt*) **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: `<empty>`

`ImagesName` (*Opt*) **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`.

Default: `image-`

`ImagesDirectory` (*Opt*) **ImagesDirectory**: The directory for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

Default: `\jobname-images`

### filename underscores

Table 7: Lwarp package options

Option	Description
<code>mathsvg</code>	Show math using SVG images.
<code>mathjax</code>	Show math using MATHJAX.
<code>latexmk</code>	Use <i>latexmk</i> for compiling documents.
<code>dvips</code>	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
<code>dvipdfm</code>	Use <i>dvipdfm</i> to convert DVI documents.
<code>dvipdfmx</code>	Use <i>dvipdfmx</i> to convert DVI documents.
<code>HomeHTMLFilename</code>	The filename of the home page.
<code>HTMLFilename</code>	A prefix for the filenames of the remaining web pages.
<code>ImagesName</code>	A prefix for the filenames of generated images.
<code>ImagesDirectory</code>	The directory used to hold generated images.
<code>PrintLatexCmd</code>	The shell commands for <b>lwarpmk print</b> .
<code>HTMLLatexCmd</code>	The shell commands for <b>lwarpmk html</b> .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
<code>makeindex</code>	Use <i>makeindex</i> to generate indices.
<code>makeindexStyle</code>	Set a custom style for <i>makeindex</i> .
<code>xindy</code>	Use <i>xindy</i> to generate indices.
<code>xindyStyle</code>	Set a custom style for <i>xindy</i> .
<code>xindyLanguage</code>	The <i>xindy</i> language option used for index generation.
<code>xindyCodepage</code>	The <i>xindy</i> codepage option used for index generation.
<code>xindex</code>	Use <i>xindex</i> to generate indices.
<code>xindexConfig</code>	Set a custom configuration file for <i>xindex</i> .
<code>PrintIndexCmd</code>	Shell commands executed by <b>lwarpmk printindex</b> .
<code>HTMLIndexCmd</code>	Shell commands executed by <b>lwarpmk htmlindex</b> .
<code>LatexmkIndexCmd</code>	Shell commands executed by <i>latexmk</i> .
<code>IndexRef</code>	How to format index links.
<code>GlossaryCmd</code>	Shell command executed by <b>lwarpmk printglossary</b> and <b>lwarpmk htmlglossary</b> .
Seldom necessary:	
<code>OSWindows</code>	Force compatibility with MS-WINDOWS.
<code>pdftotextEnc</code>	Set the encoding for <i>pdftotext</i> .
<code>lwarpmk</code>	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
<code>warpprint</code>	Generate print output, and also generate configuration files.
<code>warphTML</code>	Generate HTML output.
<code>BaseJobname</code>	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.
<code>warpdisable</code>	Disables most of <code>lwarp</code> for testing purposes.



- `PrintLatexCmd (Opt)` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected L<sup>A</sup>T<sub>E</sub>X engine and the use of `--shell-escape`.  
Default: `<automatic>`
- `HTMLLatexCmd (Opt)` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected L<sup>A</sup>T<sub>E</sub>X engine and the use of `--shell-escape`.  
Default: `<automatic>`
- `makeindex (Opt)` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.  
Default: `makeindex`
- `makeindexStyle (Opt)` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.  
Default: `lwarp.ist`
- `xindy (Opt)` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.  
Default: `makeindex`
- `xindyStyle (Opt)` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.21.  
Default: `lwarp.xdy`
- `xindyLanguage (Opt)` **xindyLanguage:** If using an index or glossary, see section 29.  
Default: `english`
- `xindyCodepage (Opt)` **xindyCodepage:** If using an index, see section 29.  
Default: `utf8`
- `xindex (Opt)` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.  
Default: `makeindex`
- `xindexConfig (Opt)` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.22.  
Default: `<empty>`
- `PrintIndexCmd (Opt)` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.  
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

#### automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

#### ⚠ xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TeX`, written to a file, read from the file by `LuaTeX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

**HTMLIndexCmd** (*Opt*) **HTMLIndexCmd:** Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

Default: `<automatic>`

#### ⚠ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx      (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx
(xindy)
```

#### automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

#### ⚠ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

**LatexmkIndexCmd** (*Opt*) **LatexmkIndexCmd:** Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Default: `<automatic>`

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist                                (makeindex)
xindy -M lwarp.xdy -L english -C utf8                 (xindy)
```

#### automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latexmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

#### ⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

**IndexRef** (*Opt*) **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does

Default: `cref`

not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as (\*) instead of ??.



If using `cref` (the default), and if a reference appears as ?? with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using (\*) or similar yields a very compact index.

`GlossaryCmd` (*Opt*) **GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.  
Default: `makeglossaries`

`OSWindows` (*Opt*) **OSWindows:** `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

`pdftotextEnc` (*Opt*) **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.  
Default: UTF-8

`lwarpmk` (*Opt*) **lwarpmk:** If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 29.

---

The following options are used internally by `lwarp`, and usually are not used in the user's document:


---


`warpprint` (*Opt*) **warpprint** and **warppHTML:** Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warppHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warppHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

`BaseJobname` (*Opt*) **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the `*_html.tex` file used to compile the HTML version. See section 29.  
Default: `\jobname`

`warppdisable` (*Opt*) **warppdisable:** Internally disables both `warpprint` and `warppHTML`. This disables most of `lwarp`, which may be useful for testing purposes to see whether `lwarp` is causing a problem.

## 7.6 Customizing the HTML output

 **Placement!** Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

 **Changes!** Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk cleanall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

### Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <empty>	<b>\HTMLFirstPageTop:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <empty>	<b>\HTMLFirstPageBottom:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: Home	<b>\linkhomename:</b> Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: Previous	<b>\linkpreviousname:</b> Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: Next	<b>\linknextname:</b> Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>tocdepth (Ctr)</code>	<b>tocdepth:</b> Sectioning depth of the table of contents. See section 16 for a list of L <sup>A</sup> T <sub>E</sub> X stack depths.
<code>SideTOCDepth (Ctr)</code> Default: 1 <code>sideroc</code>	<b>SideTOCDepth:</b> Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections.  Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to <b>Home</b> at the top and bottom.

It is recommended to set:

`SideTOCDepth=FileDepth`

or

Table 8: HTML settings

Macro/Cntr/Bool	Loc*	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidetocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {&lt;text&gt;}</code>	PD	Assigns an alt / title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The svg math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The css for the following files.
<code>\MathJaxFilename</code>	PS	The MATHJAX script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <title>, overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <title>s to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <title>s to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML description meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\HTMLnewcolumntype</code>	D	<code>\newcolumntype</code> for HTML.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

\* **P:** Preamble, **D:** Anywhere in the document. **S:** Before a section.

SideTOCDepth = FileDepth+1

### ⚠ inaccessible pages

If SideTOCDepth < FileDepth, web pages will be inaccessible via the sidetoc.

\sitetocname  
Default: Contents

**\sitetocname:** Name of the sideroc. Paragraphs are allowed. Redefine with \renewcommand.

FileDepth (Ctr)  
Default: -5

**FileDepth:** Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:  
`\setcounter{FileDepth}{-5}`
- To split the HTML file at \section depth, use:  
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:  
Place a \tableofcontents somewhere before the first section break (therefore in the “home page”), and set  
`tocdepth >= FileDepth`



CombineHigherDepths (bool)  
Default: true

**CombineHigherDepths:** Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.

### ⚠ Inaccessible pages!

### ⚠ Lost in an old page!

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (lwarpmk cleanall), change FileDepth and/or CombineHigherDepths, then finally recompile and navigate to the desired page using the new file structure.

FileSectionNames (bool)  
Default: true

**FileSectionNames:** If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the HTMLFilename option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

### ⚠ Unique filename!

\FilenameLimit  
Default: 80

**\FilenameLimit:** The maximum length of the filenames generated by lwarp. “.html” is added to this length. Redefine with \renewcommand.

FootnoteDepth (Ctr)  
Default: 3

**FootnoteDepth:** Determines where to place pending footnotes. 3 places footnotes before each break down to the \subsubsection level. 1 places footnotes before each \section break. Any pending footnotes are also placed at the bottom of each page before each file break.

FixSmallCaps (bool)  
Default: false

**FixSmallCaps:** Set true if SMALL CAPS are rendering in all caps (“SMALL

CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.

HTMLDebugComments ( <i>bool</i> ) Default: false	<b>HTMLDebugComments:</b> Set true to generate HTML comments, such as which section or <div> is being opened or closed.
\abstractname Default: Abstract	<b>\abstractname:</b> The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with \renewcommand.
\IndexPageSeparator Default: “, ”	<b>\IndexPageSeparator:</b> Index page list separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexpagessep.
\IndexRangeSeparator Default: “--”	<b>\IndexRangeSeparator:</b> Index page range separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexrangesep.

**Placed before \begin{document}, or before any sectioning command which causes a file break:**

**\CSSFilename:**  $\{\langle filename.css \rangle\}$  Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

\CSSFilename  
Default: lwarp.css

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed L<sup>A</sup>T<sub>E</sub>X output. lwarp\_sagebrush.css is a semi-fancy colored style as shown in this tutorial. Change it to lwarp\_formal.css for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

**\MathJaxFilename:**  $\{\langle filename \rangle\}$  Sets the MATHJAX script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

\MathJaxFilename  
Default: lwarp\_mathjax.txt

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

**\HTMLLanguage:**  $\{\langle langauge \rangle\}$  The HTML file’s HTML lang meta tag. Defaults to en-US.

\HTMLLanguage  
Default: en-US

**\HTMLTitle:**  $\{\langle title \rangle\}$  Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.

\HTMLTitle  
Default: \thetitle

**\HTMLTitleBeforeSection:** Sets subpage <title> tags to show the website title followed by the section name.

\HTMLTitleBeforeSection  
Default: \HTMLTitleBeforeSection

**\HTMLTitleAfterSection:** Sets subpage <title> tags to show the section name followed by the website title.

\HTMLTitleAfterSection

**custom <title>** To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

	<pre>\def\theHTMLTitleSection{%   \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% }</pre>
<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	<b>\HTMLAuthor:</b> $\{\langle author \rangle\}$ The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLDescription:</b> $\{\langle description \rangle\}$ Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split.
<code>\HTMLPageTop</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLPageTop:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLPageBottom:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	<b>\LinkHome:</b> Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	<b>\LinkPrevious:</b> Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	<b>\LinkNext:</b> Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

**Placed in the home page before the first sectioning command which causes a file break:**

<code>\tableofcontents</code>	<b>\tableofcontents:</b> Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.  Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
-------------------------------	--

△ TOC on the homepage!

**Placed in the document wherever necessary:**

<code>\ImageAltText</code> Default: <code>image</code>	<b>\ImageAltText:</b> Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML <code>alt</code> tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "image", and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following <code>\includegraphics</code> and other images.
<code>\ThisAltText</code>	<b>\ThisAltText:</b> $\{\langle text \rangle\}$ <code>\ThisAltText</code> can be used to assign an HTML <code>alt</code> text attribute to the next image generated by a <code>lateximage</code> , <code>picture</code> , <code>tikzpicture</code> , or any other similar environment which generates an



image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`  
Default: `math image`

**`\MathImageAltText`:** Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`  
Default: `diagram`

**`\PackageDiagramAltText`:** Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`  
Default: `(`

**`\AltTextOpen`:** Redefine with `\renewcommand`.

`\AltTextClose`  
Default: `)`

**`\AltTextClose`:** Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumnntype`

**`\HTMLnewcolumnntype`:** `\newcolumnntype` may not always work with `lwarp` for HTML output, since it often involves T<sub>E</sub>X boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumnntype` in addition.

`warpprint (env.)`

**`warpprint`:** An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



*Do not place anything else on the same line as `\end{warpprint}`.* Also do not nest `warpprint` inside itself.

`warpHTML (env.)`

**`warpHTML`:** An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



*Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.*

<code>\warpprintonly</code>	<b><code>\warpprintonly:</code></b> <code>{\langle contents \rangle}</code> A macro version of the <code>warpprint</code> environment.
<code>\warpHTMLonly</code>	<b><code>\warpHTMLonly:</code></b> <code>{\langle contents \rangle}</code> A macro version of the <code>warpHTML</code> environment.

### 7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

#### Numbered HTML nodes:

Example: Homepage `index.html`, and node-1, node-2. <sup>13</sup>

---

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

---

#### Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

---

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

---

#### Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

---

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

---

## 7.7 Customizing the css

`\CSSFilename` `{\langle filename \rangle}`  
 Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

<sup>13</sup>See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...

```

The styles provided by `lwarp` include:


**lwarp.css:** A default style if `\CSSFilename` is not used. This style is comparable to a plain `LATEX` document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

**lwarp\_formal.css:** A formal style with a serif fonts and a traditional look.

**lwarp\_sagebrush.css:** A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

**Custom css** A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

`lwarp.css` (*file*)      It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

`project.css` (*file*)

`sample_project.css` (*file*)

---

```

/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */

```

---

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom css.

## 7.8 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

BlockClass (*env.*) [ $\langle style \rangle$ ] [ $\langle class \rangle$ ]

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the BlockClass environment. The result is placed inside a `<div>`. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass ( $\langle wp\ css\ style \rangle$ ) [ $\langle web\ css\ style \rangle$ ] [ $\langle css\ class \rangle$ ] [ $\langle text \rangle$ ]

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the \InlineClass macro. The result is placed inside a `<span>`. \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

## 7.9 Selecting the operating system

- Unix (*Prog*) `lwarp` tries to detect which operating system is being used. UNIX / MAC OS /
- Mac OS (*Prog*) LINUX is the default (collectively referred to as “UNIX” in the configuration files),
- Linux (*Prog*) and MS-WINDOWS is supported as well.
- MS-Windows (*Prog*) If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- Windows (*Prog*) When detected or specified, the operating-system path separator used by `lwarp`
- OSWindows (*Opt*) is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

## 7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L<sup>A</sup>T<sub>E</sub>X print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L<sup>A</sup>T<sub>E</sub>X and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

- `warpHTML` (*env.*) Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:

---

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

---

⚠ `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself. `warpMathJax` may be used inside `warpHTML`.

⚠ nesting

`warpprint (env)` Anything which is to be done only for print output is surrounded by a `warpprint` environment:

---

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

---

⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

⚠ nesting

`warpall (env)` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

---

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

---

⚠ `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest `warpall` inside itself.

⚠ nesting

Macros are also provided for print-only or HTML-only code:

`\warpprintonly {actions}`

Performs the given actions only when print output is being generated.

`\warpHTMLonly {actions}`

Performs the given actions only when HTML output is being generated.

`warpMathJax (env)` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line.

⚠ `\end{warpMathJax}` Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warpHTML`.

⚠ nesting

`warpsvg (env)` Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a `warpsvg` environment. `\end{warpsvg}` must appear on its own line. Do not nest `warpsvg` inside itself. `warpsvg` may be used inside `warpHTML`.

⚠ `\end{warpsvg}`

⚠ nesting

`\LWR@formatted` To define macros or environments which behave differently depending on print or HTML output, see section 36.

## 7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent` `\parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

## 7.12 Title page

In the preamble, place an additional block of code to set the following:

---

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

---


The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 69.8.


`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

`titlepage (env.)` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

`titlingpage (env.)` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title` `{<title>}`

 **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and CSS detection. Use a `\subtitle` command instead (section 69.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

 **newlines**

`\author` `{<author>}`

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` `{<date>}`

`\date` works as expected. In HTML, this will appear in a `<div>` class titled `date`.

`\thanks`    `{\text}`

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

### 7.13 HTML page meta descriptions

`\HTMLDescription`    `{\text}`

Default: (none)

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (").

#### limitations

#### placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

#### disabling

To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

### 7.14 HTML homepage meta title

`\HTMLTitle`    `{\text}`

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

### 7.15 HTML page meta author

`\HTMLAuthor`    `{\text}`

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

## 8 Special cases and limitations

Some commonly-used L<sup>A</sup>T<sub>E</sub>X expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?


---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

### 8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with lwarp, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

**page counter:** Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

**Custom math environment macros:** Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

**Custom macros in section, figure, table names:** Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to `true` to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

#### 8.1.1 Invalid HTML

Additionally, some objects are valid L<sup>A</sup>T<sub>E</sub>X, but invalid HTML. An example is a `tabular` inside `\textbf`, since HTML does not allow a table inside a span. lwarp



will create the table, and the browser may support it, but the result is technically invalid.

## 8.2 Formatting

### 8.2.1 Text formatting

⚠ `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

**verbatim** The various verbatim-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

### 8.2.2 Small caps

`FixSmallCaps` (*bool*) Some fonts, such as `erewhon`, `utopia`, or `fbb`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

⚠ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set true.

### 8.2.3 Horizontal and vertical space and rules

`\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (`U+2009`), and a `\fill` is converted to a `\quad`.

`\vspace` `\vspace` is ignored for HTML.

`~`  
`\,` `~` and `\,` are converted to HTML entities.

`\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by *pdftotext*, and thus usually appear as a single space.

`\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently selected text color.


`\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.

`\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it

is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

### 8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:


```
\begin{table*}
\centering
\caption{A Table}
. . .
```

### 8.2.5 Accents

Native  $\LaTeX$  accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $X\TeX$  and  $\text{Lua}\TeX$ . If using accents in section names which will become file names, it is recommended to use the  $\LaTeX$  accents such as `\`` and `\v` instead of Unicode accents. The  $\LaTeX$  accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

### 8.2.6 textcomp package

`textcomp (Pkg)` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

### 8.2.7 Superscripts and other non-math uses of math mode

Use `\textsuperscript{x}` instead of  $\text{\$}^{\text{x}}\text{\$}$

### 8.2.8 Empty `\item` followed by a new line of text or a nested list:

**lists** Use a trailing backslash: `\item[label] \`

### 8.2.9 Filenames and URLs in lists or footnotes

**filename underscore** Escape underscores in the filenames:


```
\item[\href{file\_name.pdf}]{text}]
```

### 8.2.10 relsize package

`relsize (Pkg)` For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

## 8.3 Boxes and minipages


### 8.3.1 Marginpars

`\marginpar` [`<left>`] [`<right>`] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [`<left>`] [`<right>`] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.


### 8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.


 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

### 8.3.3 Minipages

 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

**placement** `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

**side-by-side** Side-by-side `minipages` may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for `minipages` inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, `minipages`, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

- ⚠ **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

### 8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

### 8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `<span>` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a `<span>`. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- `\fbox` For a framed object, options include:
- `\fboxBlock`
- `fminipage (env)`
- To remove the frame in HTML output:** Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.
- To frame the contents inline with some formatting losses in HTML:** This is the default action of `\fbox` when enclosing a minipage. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `<span>` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.
- To frame the contents on their own line with improved formatting in HTML:** A new command `\fboxBlock` is included, intended to be a direct replacement

For inline text:

For inline minipage and lists:

for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L<sup>A</sup>T<sub>E</sub>X code, the result in HTML is problematic since a table is a `<div>` not a `<span>`, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`,  
minipages, and lists:

**To create a framed minipage in both print and HTML:** A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 89 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

**To create colored frames and boxes:** See section 674 for `xcolor`’s `\colorbox` and `\fcolorbox`, and `lwarp`’s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment  
tab character &

**To frame tables or verbatim environments:** Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

**To frame equations:** See section 259 for the `fancybox` package.

**For fancy framed minipages:** See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

**Custom environments:** Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

---

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

---

### 8.3.6 fancybox package

`fancybox (Pkg)`  
framed equation example

`fancybox`’s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`’s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the HTML `alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

**framing alternatives** `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

**⚠ framed verbatim** `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

**framed \VerbBox** `fancybox`'s `\VerbBox` may be used inside `\fbox`.

**indented alignment** `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what `pdftotext` detects. Some lines may be off slightly in their left edge.

### 8.3.7 mdframed package

**mdframed (Pkg) support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

**⚠ loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

### 8.3.8 tcolorbox package


`tcolorbox` (*Pkg*) `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular `math` inside it. `\tcboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in MATHJAX.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

 **math**

 **footnotes**

 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

## 8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

- ⚠ **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

- ⚠ **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional TOC caption entry parameter for formatting. Remember to `\protect` L<sup>A</sup>T<sub>E</sub>X commands which appear in section names and TOC captions.

- ⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

## 8.5 Cross-references

- labels** Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French).
- ⚠ **label characters**
- \nameref** `\nameref` refers to the most recently-used section where the `\label` was defined.
- ⚠ **empty link** If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.



### 8.5.1 Page references

- △ **L<sup>A</sup>T<sub>E</sub>X page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.
```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 503.

### 8.5.2 `cleveref` and `varioref` packages

`cleveref` (*Pkg*)      `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

- △ **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 734 to redefine the message which is printed for page number references.

- △ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `Lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

### 8.5.3 Hyperlinks, `hyperref`, and `url`

`hyperref` (*Pkg*)      `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

`url` (*Pkg*)

- △ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- △ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

### 8.5.4 Footnotes, endnotes, and page notes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
. . .
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```



**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

**fancybox, fancyvrb** If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

 **\VerbatimFootnotes**  
 **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

**pfnote** While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

△ **pfnote numbers**

**bigfoot, manyfoot** Verbatim footnotes are not yet supported.

△ **verbatim**

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L<sup>A</sup>T<sub>E</sub>X. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

### 8.5.5 `xr`, `xr-hyper`, and `xcite` packages

See section 5.17.

## 8.6 Front and back matter

### 8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

### 8.6.2 Starred chapters and sections

**HTML page and TOC** The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

lwarp provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. lwarp will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

### 8.6.3 abstract package

`abstract (Pkg)` If using the `number` option with file splits, be sure to place the table of contents before the abstract. The `number` option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

### 8.6.4 titling and authblk

`titling (Pkg)` lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

package support

△ load order

`\published` and `\subtitle`

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

### 8.6.5 tocloft package


`titles (Opt) [tocloft]` If using `tocloft` with `tocbibind`, `anonchapp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

`tocloft (Pkg)`

`tocloft (Pkg)`


△ tocloft & other packages

### 8.6.6 appendix package

 **incorrect TOC link** `appendix (Pkg)` During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

### 8.6.7 pagenote package

`pagenote (Pkg)` `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.


### 8.6.8 endnotes package

`endnotes (Pkg)` To place the endnotes in the TOC, use:  
**table of contents**

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```


**HTML page** To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

 **\endnotemark numbering** If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

### 8.6.9 BibTeX

`\etalchar` Displays a superscript “+” to indicate “and others”.

 **Modify \*.bib** When enough authors are cited for a source, `BIBTEX` may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, `lwarp` requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the `.bib` file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}

```

### 8.6.10 xcite package

See section 5.17.

### 8.6.11 gloss package

`gloss (Pkg)` To process the HTML glossary:

 **compiling** `bibtex <projectname>_html.gls`

### 8.6.12 glossaries package

`glossaries` (*Pkg*)      *lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's *makeglossaries* program.

[processing glossaries](#)

`GlossaryCmd` (*Opt*)

Default: `makeglossaries`

`printglossary` (*Opt*) [`lwarpmk`]

`htmlglossary` (*Opt*) [`lwarpmk`]

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

[xindy language](#) To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

[placement and toc options](#) The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

#### Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

#### Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

#### Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namer{fs}` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

[print/HTML versions](#) The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

### 8.6.13 nomencl package

nomencl (*Pkg*) To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o
<project>_html.nls
```

### 8.6.14 Indexing overview

There are many ways to process indexes for a L<sup>A</sup>T<sub>E</sub>X document, including native L<sup>A</sup>T<sub>E</sub>X capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

**manual processing** The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, \*.idx and \*.ind files will be accompanied by \*\_html.idx and \*\_html.ind files.

**custom index style** If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

**link appearance** To control how the index links appear in the HTML output, see the IndexRef option in section 7.5, page 106.

**source code** See section 79 for *lwarp*'s core index and glossary code, section 340 for index, section 571 for splitidx, section 338 for imakeidx, section 628 for tocbibind, and section 695.17 for memoir's indexing patches.

### 8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

**lwarpmk processing** The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

makeindex (*Prog*) **For a single index using makeindex:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.ist style file. When creating the HTML index, "\_html" is automatically appended to each of the names.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.20.

*xindy (Prog)* **For a single index using *xindy*:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

*xindex (Prog)* **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

*gindex (Pkg)* **For a single index using *gindex*:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  ... or ...
  makeindexStyle=gindexh.ist,
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagesep` and `\indexrangesep` settings.



### 8.6.16 Indexing with index

index (*Prog*)

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

#### For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions `.sist` and `.sind`)

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
...
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

When creating the HTML index, “\_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

### 8.6.17 Indexing with splitidx

splitidx (*Prog*)

lwarp is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

⚠ \thepage When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer

to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 695.17 in the `lwarp-patch-memoir` package for the `\@@wrspindexhyp` macro as an example.

#### For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “\_html” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

#### For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M
    lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “\_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

### 8.6.18 Indexing with imakeidx

*imakeidx (Prog)*

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s **lwarpmk printindex** and **lwarpmk htmlindex** commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

#### For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

*imakeidx* will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

#### For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```

\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]

```

 enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

*imakeidx* will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

*latexmk* may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

### For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarp.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```

\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]

```

 enable shell escape

For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

*imakeidx* will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

**For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:**

lwarp's options are used, and are passed to *latexmk*.

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]
```

*latexmk* will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

**For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:**

*lwarpmk* must be told how to create the indexes:

```
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]
```

**⚠ WINDOWS**

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For multiple indexes using *xindex* and *imakeidx*, using shell escape:**

*xindex*, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```

\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]

```

⚠ enable shell escape

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

*xindex* will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

### 8.6.19 Indexes with memoir

**For a single index with memoir and *makeindex*:**

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex

```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For multiple indexes with memoir and *makeindex*, using *latexmk*:**

*lwarp*'s options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

*lwarpmk* will use *latexmk* to create the indexes automatically when the user executes *lwarpmk print* and *lwarpmk html*.

**For multiple indexes with memoir and *makeindex*, without latexmk:**

*lwarpmk* must be told how to create the indexes:

```

\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

**⚠ WINDOWS**

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For a single index with memoir and *xindy*:**

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
. . .
\xindyindex
\makeindex

```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For multiple indexes with memoir and *xindy*, using latexmk:**

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

*lwarpmk* will use *latexmk* to create the indexes automatically.

**For multiple indexes with memoir and *xindy*, without latexmk:**

*lwarpmk* must be told how to create the indexes:

```

\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

**⚠ WINDOWS**

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

**8.6.20 Using a custom *makeindex* style file**

*makeindex* (Prog)      When using *makeindex*, *lwarpmk* uses the file *lwarp.ist* to process the index.  
*lwarp.ist* (file)      This file is over-written by *lwarp* whenever a print version of the document is processed.



To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`makeindexStyle (Opt)`

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
  . . . other options . . .
  makeindex,
  makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

### 8.6.21 Using a custom *xindy* style file

`xindy (Prog)`    When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

`lwarp.xdy (file)`

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindyStyle` (*Opt*)

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

### 8.6.22 Using a custom *xindex* style file

`xindex` (*Prog*)

To use a custom *xindex* style file:

 **filename**

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.
3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindexConfig` (*Opt*)

4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

### 8.6.23 Additional indexing limitations

- ⚠ *xindy* with *hyperref* *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

- ⚠ *empty index* If an HTML index is empty, it may be necessary to add the following before *lwarp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
. . .
\usepackage{lwarp}
```

- makeindex* custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
. . .
A sentence.\index{key|notesstyle}
```

- xindy* custom display styles For custom styles with *xindy*, see *lwarp.xdy* for `\textbf` and `\textit` as examples.

### 8.6.24 Index positions, toc, tocbibind

- placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

- makeidx* (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

- makeidx* (*Pkg*) **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

- tocbibind* (*Pkg*) **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

tocbibind (*Pkg*) **On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

numindex (*Opt*) [tocbibind] Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)


Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchop, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

 [tocloft & other packages](#)

## 8.7 Math

### 8.7.1 Math in section names

 [math in section names](#) If using named HTML files, in section names use paren math  $\(x+y\)$  instead of dollar math  $\$x+y\$$ . (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the hyperref package:

```

\section{Some math \texorpdfstring{\$1+2=3\$}{three}}

```

### 8.7.2 Math in custom environments

To create an environment which places its contents inside math, instead of:

```

\newenvironment{mymathenv}{ \(\ starting math}{ending math \) }

```

use:

```

\NewDocumentEnvironment{mymathenv}{b}
{
  \inlinemathother
  \(\ starting math #1 ending math \)
  \inlinemathnormal
}
{}

```

or:

 [math in environments](#)

```

\usepackage{environ}
\NewEnviron{mymathenv}{
  \inlinemathother
  \(\ starting math \BODY ending math \)
  \inlinemathnormal
}

```

For display math, use `\[`, `\]`, `\displaymathother`, and `\displaymathnormal`.

### 8.7.3 Rendering tradeoffs

**Math rendering** Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

**SVG files** Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

**SVG inline** The SVG images are currently stored separately, but they could be encoded inline directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

**PNG files** Others L<sup>A</sup>T<sub>E</sub>X-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

**MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

### 8.7.4 SVG option

**SVG math option** For SVG math, math is rendered as usual by L<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>14</sup>, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L<sup>A</sup>T<sub>E</sub>X with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML `alt` attribute carries the L<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>X math expression into other documents.

**SVG image font size** For the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

<sup>14</sup>See section 680 regarding fonts and fractions.

```
\newcommand*{\LateximageFontScale}{.75}
```

**svg math copy/paste** For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the L<sup>A</sup>T<sub>E</sub>X code for the math expression. For  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred  $\mathcal{A}\mathcal{M}\mathcal{S}$  environment, although the `\tag` macro will still appear inside the L<sup>A</sup>T<sub>E</sub>X math expression.

⚠ **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

⚠ **svg math in T<sub>E</sub>X boxes** SVG math does not work inside T<sub>E</sub>X boxes, since a `\newpage` is required before and after each image.

### 8.7.5 MATHJAX option

**MATHJAX math option** The MATHJAX ([mathjax.org](http://mathjax.org)) L<sup>A</sup>T<sub>E</sub>X-math to HTML converter may be used to display math.  
MathJax (*Prog*)

When MATHJAX is enabled, math is rendered twice:

1. As regular L<sup>A</sup>T<sub>E</sub>X PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L<sup>A</sup>T<sub>E</sub>X, and
2. As detokenized printed L<sup>A</sup>T<sub>E</sub>X commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L<sup>A</sup>T<sub>E</sub>X values, and the MATHJAX equation numbering system is ignored in favor of the L<sup>A</sup>T<sub>E</sub>X internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

### ⚠ fonts 8.7.6 MATHJAX rendering options

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

**Math Settings** → **Math Renderer** → **SVG**

Wait a moment for the math to rerender.

### 8.7.7 Customizing MATHJAX

**equation numbering** lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```

\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}

```

⚠ **subequation** The `amsmath` subequations environment is supported, but only with `\alpha` subequation numbering.

**global customizations** MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```

\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}

```

⚠ **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

**siunitx** When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}

```

**advanced control** For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 399, [mathtools](#).

**local customizations** For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\newcommand{\macroname}{. . .} \)
\(\newcommand{\anothername}{. . .} \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

### 8.7.8 MATHJAX limitations

**MATHJAX limitations** Limitations when using MATHJAX include:

MathJax (*Prog*)



`\multicolumn`, `\multirow`

- MATHJAX does not support `\multicolumn` or `\multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a `TikZ` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.15.

`physics`

- For `physics`, see [physics package](#), section 8.7.17.

`tabbing`

- A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. Lwarp supports this extension.



Unicode

- If using DVI  $\LaTeX$  or PDF  $\LaTeX$ , unicode input may not appear correctly in MATHJAX. Either use  $\XeLaTeX$  or  $\LuaLaTeX$ , or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```



other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these



macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

### 8.7.9 Catcode changes

[preamble macros with math](#)

The math shift character  $\$$  is not set for HTML output until after the preamble. Macros defined in the preamble which contain  $\$$  must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of  $\$$ :

```
\StartDefiningMath
\newcommand{. . . }
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of  $\$$ , in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using  $\$$ , it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

### 8.7.10 Complicated inline math objects

[\inlinemathnormal](#)  
[\inlinemathother](#)  
[changing contents](#)  
[complicated alt tag](#)  
[MATHJAX limitations](#)

An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as  $x+1$ , so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an `alt` tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells `lwarp` to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 44.

### 8.7.11 Complicated display math objects

[\displaymathnormal](#)  
[\displaymathother](#)  
[MATHJAX unsupported](#)  
[complicated alt tag](#)

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

### 8.7.12 Theorems

- ⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.<sup>15</sup> For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

### 8.7.13 ntheorem package

- `ntheorem` (*Pkg*) This conversion is not total. Font control is via `css`, and the custom  $\LaTeX$  font settings are ignored.
- ⚠ **Font control**
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in  $\mathcal{AMS}$  environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s `HTML` output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

### 8.7.14 mathtools package

- `mathtools` (*Pkg*) `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
- ⚠ **equation numbering**
- ⚠ **italic correction** `mathic` is not emulated for `HTML`.
- ⚠ **MATHJAX** If using `MATHJAX`:

- Recent changes may not yet be updated in the `MATHJAX` extension, which is used by `lwarp`.
- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:
 

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires `math` mode, but in  $\LaTeX$  it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

<sup>15</sup>`lwarp` uses `cleveref` for the `HTML` conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

### 8.7.15 siunitx package

`siunitx` (*Pkg*) `siunitx` is well supported by `lwarp`.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for `siunitx v3`.

Negative values are not automatically colored.

**tabular** Tabular `S` and `s` columns are rendered as simple `c` columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

**drop-exponent**

**table-auto-round** `table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original `siunitx` code is used while generating the `svg` image.

**For HTML text mode:** `lwarp` uses `siunitx` code patched for `HTML`, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** `siunitx` allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for `HTML` if an `HTML`-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

**v3 only!** Use this after the print unit has been defined. For `siunitx v3`, `\HTMLDeclareSIUnit` declares a simplified version of the unit for `HTML`, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

##### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

##### ⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

##### custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

##### ⚠ unit spacing

- Units work better using `~` between units instead of using periods.

##### ⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

##### ⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

### 8.7.16 units and nicefrac packages

`units` (*Pkg*) `units` and `nicefrac` work with `lwarp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

### 8.7.17 physics package

`physics` (*Pkg*) `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

## 8.8 Graphics

`graphics` (*Pkg*) Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase

##### ⚠ case sensitive

Table 9: `\includegraphics` and file names

Print image file	HTML image file	Command to use
image.pdf <sup>a</sup>	image.svg <sup>a</sup>	<code>\includegraphics{image}</code>
image.eps <sup>a</sup>	image.svg <sup>a</sup>	<code>\includegraphics{image}</code>
image.jpg	— <sup>b</sup>	<code>\includegraphics{image}</code>
image.png	— <sup>b</sup>	<code>\includegraphics{image}</code>
image.JPG	— <sup>b</sup>	<code>\includegraphics{image.JPG}</code> <sup>c</sup>
image.PNG	— <sup>b</sup>	<code>\includegraphics{image.PNG}</code> <sup>c</sup>
image.jpg	image.gif	<code>\includegraphics{image}</code>

<sup>a</sup>: Must be a lowercase file extension.

<sup>b</sup>: The same file is used for print and HTML.

<sup>c</sup>: The uppercase extension must be specified.

extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

#### `\includegraphics` file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility `pdftocairo`:

PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use `lwarpmk`:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use

`epstopdf` (*Prog*)

```
Enter ⇒ lwarpmk pdftosvg *.PDF
```

`epstopdf` package

to convert to SVG images.

**DVI L<sup>A</sup>T<sub>E</sub>X** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

**PNG and JPG** For PNG or JPG while using *pdf<sub>l</sub>atex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

**duplicate files** A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **image not displayed**

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport** viewports are not supported by `lwarp`—the entire image will be shown.

**units** For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

**options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

**HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:


```
\includegraphics[width=<yy>\linewidth]{...}
```

**\rotatebox** `\rotatebox` accepts the optional `origin` key.

⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace

which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.


### 8.8.1 tikz package

 **displaymath and matrices** `tikz (Pkg)` If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

### 8.8.2 grffile package

 **matching PDF and SVG** `grffile (Pkg)` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

### 8.8.3 color package

`color (Pkg)` `color` is superseded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

### 8.8.4 xcolor package

`xcolor (Pkg)` `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.

**background: none** `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

**colored text and boxes** `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

**\color and \pagecolor** `\color` and `\pagecolor` are ignored. Use CSS or `\textcolor` where possible.

### 8.8.5 epstopdf package

`epstopdf (Pkg)` Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses

⚠ **convert to .svg** the .svg version, so use

```
Enter ⇒ lwarpmk pdftosvg <listofPDFfiles>
```

to generate .svg versions.

### 8.8.6 pstricks package

*pstricks (Pkg)* All *pstricks* content should be contained inside a *pspicture* environment.

⚠ **use pspicture**

### 8.8.7 pdftricks package

*pdftricks (Pkg)* The *pdftricks* image files `<jobname>-fig*.pdf` must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

⚠ **convert image files**

```
Enter ⇒ lwarpmk pdftosvg <jobname>-fig*.pdf
```

### 8.8.8 psfrag package

*psfrag (Pkg)* The *psfrags* environment is modified to use *lateximage* to encapsulate the image. Always use a *psfrags* environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a *psfrags* environment, *psfrags* adjustments will not be seen by *lwarp*.

⚠ **use psfrags**

⚠ **Tip:** Use a mono-spaced font for the tags in the EPS file.

### 8.8.9 pstool package

*pstool (Pkg)* `\graphicspath` is ignored, and the file directory must be stated.

⚠ **path and filename** The filename must not have a file extension.

Use

```
Enter ⇒ lwarpmk html
```

followed by

```
Enter ⇒ lwarpmk limages
```

.



### 8.8.10 asymptote package

asymptote (*Pkg*) To compile:

```

pdflatex project.tex
asy project-*.asy
pdflatex project.tex


lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages

```

### 8.8.11 overpic package

overpic (*Pkg*) The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 **scaling**

### 8.8.12 Multimedia packages

multimedia (*Pkg*) The packages `multimedia`, `movie15`, and `media9` are supported.

movie15 (*Pkg*) HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

media9 (*Pkg*) HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.


`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

## 8.9 Tabbing

The tabbing environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

 **math in tabbing** If `math` is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

## 8.10 Tabular

### 8.10.1 tabular environment

`Tabular` mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

#### Defining macros and environments:

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.


```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and & here>
```


```
\StopDefiningTabulars
```

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

 **Misplaced alignment tab character &**

 **floatrow**

 **tabular inside another environment**

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

#### For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

#### Cell contents:

##### ⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

#### Column specifiers:

##### ⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{<math>c</math>}<{<math></math>` do not work with `lwarp`. Instead, each cell must specify math mode individually.

##### @ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

##### \multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

##### ⚠ \newcolumntype

- If `\newcolumntype` does not work for `HTML`, add a simplified column type using `\HTMLnewcolumntype`.

## font and alignment

- **lwarp** detects each of the following, and sets HTML CSS appropriately:
  - >{\centering\arraybackslash}
  - >{\raggedright\arraybackslash}
  - >{\raggedleft\arraybackslash}
  - >{\itshape}
  - >{\bfseries}
  - >{\bfseries\itshape}
 These may be used with `\newcolumntype`, such as:
 

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

**Rules:**

## vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

## width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

## combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:
 

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warpprintHTML` environment, if a “Misplaced `\noalign`” error occurs, change
 

```
This & That \endhead
```

 to
 

```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

**Other:**

## longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

## ⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpprintHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ `tabular` inside a `<span>`

- In  $\LaTeX$ , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

### 8.10.2 multirow package

`vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

`multirow cells` • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

`colored cells` • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 429.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ `skipped cells` As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ `MathJax` • `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

### 8.10.3 longtable package

`longtable (pkg)` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}[column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ ... ] \endhead % or \endfirsthead
[ ... ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

#### 8.10.4 threeparttablex package

`threeparttablex` (*Pkg*) `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpprintonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

#### 8.10.5 supertabular and xtab packages

`supertabular` (*Pkg*) For `\tablefirsthead`, etc., enclose them as follows:

```
\xtablefirsthead
\tablefirsthead
. . .
\stoptablefirsthead
```

⚠ **Misplaced alignment tab character &**

See section 8.10.1.

⚠ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

### 8.10.6 colortbl package

colortbl (*Pkg*) Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ **row/cell color** colortbl ignores the overhang arguments.

### 8.10.7 ctable package

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

### 8.10.8 bigdelim package

bigdelim (*Pkg*) `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

## 8.11 Floats

### 8.11.1 Float contents alignment

⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

### 8.11.2 float, trivfloat, and/or algorithmicx together

float (*Pkg*) If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 639.1.  
trivfloat (*Pkg*)  
algorithmicx (*Pkg*)

⚠ **package conflicts**

### 8.11.3 caption and subcaption packages

`caption (Pkg)`      Package options may cause problems with `lwarp`, especially if they include curly braces.  
`subcaption (Pkg)`

If selecting options with braces in `\usepackage` does not work:


```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```


 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```


Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.


### 8.11.4 subfig package

`subfig (Pkg)`

 **table numbering** To have correct sub table numbers:


```
\usepackage{caption}
\captionsetup[table]{position=top}
```

 **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

 **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

### 8.11.5 floatrow package

`floatrow (Pkg)`      Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

 **Misplaced alignment tab character & subfig package**

When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.



⚠ `\FBwidth, \FBheight`

The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

### 8.11.6 keyfloat package

`keyfloat` (*Pkg*) If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

⚠ `keywrap`

For wrapped figures, overhang and number of lines are ignored.

## 8.12 KOMA-SCRIPT classes

`komascript` (*Cls*) Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

## 8.13 MEMOIR class

`memoir` (*Cls*) `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ `captions`

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 695.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

⚠ `options clash`

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform memoir's pagenote functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ **glossaries** The memoir glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
\textbf{#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
\begin{minipage}{\linewidth}
\textbf{#2}
\begin{minipage}{\linewidth}
}
{\end{minipage}\end{minipage}}
```


```

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
}
{\end{fminipage}}
\end{warpHTML}

```

## 8.14 International languages

 **section and file names** If using *pdf<sub>l</sub>atex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdf<sub>l</sub>atex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *x<sub>e</sub>l<sub>a</sub>tex*, *l<sub>u</sub>a<sub>l</sub>atex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

*verse* (*Pkg*) When using *verse* or *memoir*, always place a `\\` after each line.


*memoir* (*Cls*) The documentation for the *verse* and *memoir* packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\vleftskip` (*Len*) These lengths are used by *verse* and *memoir* to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

 **spacing** Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini`

⚠ **verse margin**

or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

### 8.15.2 newclude package

`newclude` (*Pkg*) `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

⚠ **loading**

```
\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warphTML]{lwarp}
...
```

### 8.15.3 babel package

`babel` (*Pkg*) When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

⚠ **\CaptionSeparator**

```
\renewcommand*{\CaptionSeparator}{:~}
```

**punctuation spaces**

Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also

⚠ **customized spacing**

changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

### 8.15.4 polyglossia package

`polyglossia` (*Pkg*) `lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

### 8.15.5 todonotes and luatodonotes packages

`todonotes` (*Pkg*)    The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

`luatodonotes` (*Pkg*)

### 8.15.6 fixme

`fixme` (*Pkg*)    External layouts (`\fxloadlayouts`) are not supported.

#### △ external layouts

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 acro package

△ **formats**    Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

### 8.15.9 chemformula package

△ **chemformula with MATHJAX**    `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

### 8.15.10 mhchem package

See section 410.

### 8.15.11 kotex package

kotex (*Pkg*) See section 8.14 regarding *pdflatex* and Korean section names.

 Korean section names

## 9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T<sub>E</sub>X engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

### 9.1 Command options


`PrintLatexCmd` (*Opt*)    The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.  
`HTMLLatexCmd` (*Opt*)

`PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`.  
`lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The `lwarp` package options are parsed by T<sub>E</sub>X, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

---

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={ ... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 10: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpsetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

---

```

\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

---

### 9.3 *latexmk*

`latexmk` (*Prog*) If *latexmk* is used for a project, it may be easiest to continue using it.

`latexmk project.tex` would create `project.pdf` as normal.

`latexmk project_html.tex` would create `project_html.pdf`, then

`lwarpmk pdftohtml project_html.pdf` would take `project_html.pdf` and convert it to `project.html`.

`sagetex` (*Pkg*) *latexmk* may simplify the use of packages such as `sagetex`.



## 9.4 perltex package

`perltex (Pkg)` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```

⚠ “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.11.

## 9.5 pythontex package

`pythontex (Pkg)` An example using `pythontex`:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use `latexmk`, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother . . . \displaymathnormal`, or `\inlinemathother . . . \inlinemathnormal`. Displays of code may have to be

⚠ HTML look-alike enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

## 9.6 sympytex package

`sympytex (Pkg)` For `sympytex`:

```

\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    python project.sympy \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    python project_html.sympy \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}

```

Also see the warnings for `pythontex`, above.

## 9.7 Other packages


`rterface` (*Pkg*) Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

## 9.8 `make` program

`make` (*Prog*) To use `lwarp` with the `make` program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

## 9.9 UTF-8 locale

 **UTF-8 locale** `lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```

\usepackage[lwarp][
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]

```

`ditaa (Pkg)` The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe $\LaTeX$  and `ditaa`. To use Lua $\LaTeX$  instead, the locale change would have to be made inside the `ditaa` package where its calls the *ditaa* program.

## 10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

**<meta> author** To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatEPUB
FormatEPUB ( <i>bool</i> ) Default: <i>false</i>	FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk images
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

### search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

### encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

### section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarp's section headings, see table 12. For example, an article class document would break at `\section`, which is mapped to HTML heading level

<h4>, whereas a book class document would break at `\chapter`, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with `\chapters`.) The Detect chapters at field should then show

**//h:h4** — or — **//h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the *lwarp*-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

#### *MathJax support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for `siunitx`.

*lwarp* adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so *lwarp* requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where `siunitx` support is important.

---

## 11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatWP
FormatWP ( <i>bool</i> ) Default: false	<hr/> Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT. <hr/>

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

#### formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.
- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have

no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.

- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit `HTML` styles are given to:
  - `\textsc`, etc.
  - `\underline`, `soul` and `ulem` markup.
  - `center`, `flushleft`, `flushright`.
  - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
  - `fancybox` `\shadowbox`, etc.
  - The `LATEX` and `TEX` logos.

- Honors several booleans:

**WPMarkFloats:** Marks the begin and end of floats.

**WPMarkMinipages:** Marks the begin and end of minipages.

**WPMarkTOC:** Marks the location of the Table of Contents.

**WPMarkLOFT:** Marks the locations of the List of Figures/Tables.

**WPMarkMath:** Prints `LATEX` math instead of using images.

**WPTitleHeading:** Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

### WPMarkFloats

---

WPMarkFloats (*bool*)

Default: `false`

Adds

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

### WPMarkMinipages

---

WPMarkMinipages (*bool*)

Default: `false`

Adds

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---

#### WPMarkTOC

---

WPMarkTOC (*bool*)  
 Default: true

While formatting for word processors, adds  
 === table of contents ===

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

---

#### WPMarkLOFT

---

WPMarkLOFT (*bool*)  
 Default: false

While formatting for word processors, adds  
 === list of figures === *and/or*  
 === list of tables ===

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---

#### WPMarkMath

---

[siunitx](#)  
 WPMarkMath (*bool*)  
 Default: false  
 TeXMaths (*Prog*)

While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the *siunitx* package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for  $\mathcal{A}\mathcal{M}\mathcal{S}$  math environments.

---

#### WPTitleHeading

---

WPTitleHeading (*bool*)  
 Default: false  
[section headings](#)

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.



Table 11: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph	<span>	<h6>	<h6>	<h5>

\* For default depths when not FormatWP, see table 12 on page 201.

See table 11 on page 185.

### 11.3 Recommendations

**TOC, LOF, LOT** For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

**siunitx** For `siunitx`, remember to adjust the preamble as mentioned above.

**LO view border options** LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L<sup>A</sup>T<sub>E</sub>X and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L<sup>A</sup>T<sub>E</sub>X and HTML output. SVG math is recommended when using the  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments, which may have multiple numbered equations per object.


As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
  - `\textcircled`
  - `booktabs trim`
- `\hspace` and rules, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L<sup>A</sup>T<sub>E</sub>X output. See section 93 for an example of the `picture` environment.
- css classes** To create a custom HTML block or inline CSS class, see section 52.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.
-  **TeX boxes** Any TeX boxes must be undone, as `svg math` or `lateximages` require `\newpage`, which will not work in a TeX box.

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

#### To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

---

Run `./update` now, and whenever a new `lwarp-*` package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

Enter  $\Rightarrow$  **which lwarpmk**

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In `.cshrc`:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the *lwarp* documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other lwarp-packages where T<sub>E</sub>X can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 457 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

### 12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent inclusion in lwarp, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

### 12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

### 12.4 Testing lwarp

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

#### compiling individual packages

`core.ins` (*file*)

For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

```
\generate{
\file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
\file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

#### compiling css and other generated files

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins -or- pdflatex core.ins`
3. `pdflatex lwarp.dtx`
4. If modifying *lwarpmk* the new version should now be active.
5. If modifying css files or other files generated by `lwarp`:
  - (a) For the document, `lwarpmk print` to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

## 12.5 Modifying *lwarpmk*

`lwarpmk` (*Prog*)     In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.  
`lwarpmk.lua` (*file*)

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to `lwarp`:** `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** `lwarp` cannot determine which engine is being used. Supported are DVI  $\LaTeX$ , PDF  $\LaTeX$ , Xe $\LaTeX$ , Lua $\LaTeX$ , and up $\LaTeX$ .

#### 13.1.2 Image generation with `lwarpmk limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Re-compile.

**`lwarpmk epstopdf *` or `lwarpmk pdftosvg *`:** Errors if filenames are not found.



### 13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

### 13.1.4 Packages

**Loaded before lwarp:** Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after lwarp:** Most packages which are modified by lwarp must be loaded after lwarp.

**Loaded never:** Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

**longtable:** lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.


**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all languages are supported by cleveref.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

**Filenames:** lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

 **HTML corrupted** **Multirow:** When \multirow or \multicolrow are used, \mrowcell or \mcolrowcell must be placed in the appropriate cells to avoid corrupted HTML output.

**(width,height) missing a comma:** \makebox and \framebox can accept a parenthesis-delimited width and height, which must be separated by a comma.

**“Load graphicx or graphics for improved svg math baselines.”:** svg math sizing and baselines are improved if either of these packages are used.

**“Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe<sub>La</sub>TeX logo can use the reversed “E”.

**“It is recommended to use [width=xx\linewidth] instead of [scale=yy] ”:** Browser support of scale does not have the same effect as in L<sup>A</sup>T<sub>E</sub>X.

## 13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

△ **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

△ **dotlessj** **Dotless j (\j):** See section 7.4 regarding cmap, mmap.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section 7.6.

**Tabular problems:** See section 8.10.1.

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document’s L<sup>A</sup>T<sub>E</sub>X code is correct, before attempting to generate an HTML version.

`\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:`

Each of these must be without any other characters on the same line.

**“Runaway argument? File ended while scanning use of \next:**

Don’t use warpHTML, warpprint, warpall, or warpMathJax inside itself.

**Options clash:** If using memoir, see section 8.13.

**“Missing \begin{document}.“:** Some packages require that their options be specified before lwarp is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

**“No room for a new \write.“:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

**“! TeX capacity exceeded, sorry [text input levels=15].“:** Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.“:** If using a filename or URL in a footnote or `\item`, escape underscores with `\_.`

△ [warpHTML](#), [warpprint](#),  
[warpMathJax](#), [warpall](#)

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as  $X=1$  may be replaced with

```
\textit{X}\,=\,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**

Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `\l@<floattype>` or `\l@<sectiontype>` definition. See `lwarp`'s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\lrbbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . . \\_\_hook begindocument”:**

See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the `TEX` text, v.s. the PDF bookmark. See the `hyperref` manual.**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote ' character, instead of using the upright quote ’ character.**“Complicated objects inside math”:** Some objects, such as `TikZ`, may not compile in `lwarp`'s normal math emulation. Insert

⚠ macros in section, table, figure names

⚠ BibTeX

⚠ `polyglossia`

⚠ custom macros for environments

⚠ `\LWR@formatted`

⚠ quote character

⚠ “impure” math objects

`\displaymathother` — *or* — `\inlinemathother`  
 before the math, and then  
`\displaymathnormal` — *or* — `\inlinemathnormal`  
 when displaying “normal” math. See section 8.7.11.

**Slow compilation of math objects:** Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.11.

**Missing sections:** See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section 8.5.4.

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

**Missing / incorrect cross-references:**

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).  
`\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
```

in html becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 734 to redefine the message which is printed for page number references.

**BibTeX errors with `\etalchar`:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use  $\text{\LaTeX}$  or  $\text{\LaTeX}$ .

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

**Caption setup:** With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- When images are added or removed, Enter `lwarpmk limages` to refresh the `lateximage` images.

**svg images:**

⚠ adding/removing

When a math expression, picture, or TikZ environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as TikZ may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L<sup>A</sup>T<sub>E</sub>X recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as L<sup>A</sup>T<sub>E</sub>X would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its L<sup>A</sup>T<sub>E</sub>X source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

**Plain-looking document:**

- The document’s CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.

⚠ HTML corrupted

**Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

#### Un-matched conditional compiles:

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

### 13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

## 13.3 Compiling the `lwarp.dtx` file

**lwarp\_tutorial.tex:** Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

#### Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

#### Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

## 14 Trademarks

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File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude~~ ~~haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.



Table 12: Section depths and HTML headings

Section	L <sup>A</sup> T <sub>E</sub> X depth	HTML headings *
Title of the entire website		<h1>
(none)	-5	new for this package
book	-2	<div class = "book">
part	-1	<h2>
chapter	0	<h3>
section	1	<h4>
subsection	2	<h5>
subsubsection	3	<h6>
paragraph	4	<span class = "paragraph">
subparagraph	5	<span class = "subparagraph">
listitem	7	new for this package, used for list items

\* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 185.

## 16 Section depths and HTML headings

Stacks are created to track depth inside the L<sup>A</sup>T<sub>E</sub>X document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the L<sup>A</sup>T<sub>E</sub>X document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

## 17 Source code


This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**index entries** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:**  
**for PRINT output:**  
**for HTML & PRINT:** Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

## 18 Detecting the T<sub>E</sub>X engine — *pdf<sub>l</sub>atex*, *lua<sub>l</sub>atex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>Y</sub>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8   \xetexorluatextrue
9 \else
10  \ifLuaTeX
11    \xetexorluatextrue
12  \else
13    \xetexorluatexfalse
14  \fi
15 \fi

```

## 19 Early package requirements

`etoolbox` (*Pkg*) Provides `\ifbool` and other functions.

```
16 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
```

Patch to fix copy of environment with a `\par`:

<https://github.com/josephwright/etoolbox/issues/35>

```
17 \long\def\etb@carsquare#1#2#3\@nil{#1#2}
```

`xpatch` (*Pkg*) Patches macros with optional arguments.

```
18 \RequirePackage{xpatch}
```

`ifplatform` (*Pkg*) Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
19 \RequirePackage{ifplatform}% sense op-system platform
```

`letltxmacro` (*Pkg*)

```
20 \RequirePackage{letltxmacro}
```

## 20 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most

of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

## 20.1 Tests of package load order

`\LWR@loadafter`  $\langle\textit{packagename}\rangle$  Error if this package was loaded before `lwarp`.

```

21 \newcommand*\LWR@loadafter}[1]{%
22 \IfPackageLoadedTF{#1}
23 {
24   \PackageError{lwarp}
25     {%
26       Package #1,\MessageBreak
27       or one which uses #1,\MessageBreak
28       must be loaded after Lwarp.\MessageBreak
29       Enter 'H' for possible solutions%
30     }
31     {%
32       Move ‘\protect\usepackage{#1}’ after
33       ‘\protect\usepackage{lwarp}’.\MessageBreak
34       Package #1 may also be loaded by something else,\MessageBreak
35       which must also be moved after Lwarp.%
36     }
37 }
38 {\relax}
39 }

```

`\LWR@notmemoirloadafter`  $\langle\textit{packagename}\rangle$  Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

40 \IfClassLoadedTF{memoir}
41 {\newcommand*\LWR@notmemoirloadafter}[1]{}
42 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter`  $\langle\textit{packagename}\rangle$  Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

43 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
44
45 \IfClassLoadedTF{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
46 \IfClassLoadedTF{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
47 \IfClassLoadedTF{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
48 \IfClassLoadedTF{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}

```

```

49 \IfClassLoadedTF{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
50 \IfClassLoadedTF{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \IfClassLoadedTF{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \IfClassLoadedTF{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
53 \IfClassLoadedTF{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \IfClassLoadedTF{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
55 \IfClassLoadedTF{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

`\LWR@loadbefore {<packagename>}` Error if this package is loaded after `lwarp`.

```

56 \newcommand*{\LWR@loadbefore}[1]{%
57 \IfPackageLoadedTF{#1}
58 {\relax}
59 {
60   \PackageError{lwarp}
61   {%
62     Package #1 must be loaded before lwarp.\MessageBreak
63     Enter 'H' for possible solutions%
64   }
65   {Move ‘‘\protect\usepackage{#1}’’ before ‘‘\protect\usepackage{lwarp}’’}.}
66 }
67 }

```

`\LWR@checkloadbefore {<packagename>}`

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after `lwarp`.

```

68 \newcommand*{\LWR@checkloadbefore}[1]{%
69   \ifdefstring{\LWR@tempone}{#1}{%
70     \LWR@loadbefore{#1}%
71   }{}%
72 }

```

`\LWR@loadnever {<badpackagename>} {<replacementpkgnames>}`

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```

73 \newcommand*{\LWR@loadnever}[2]{%
74 \PackageError{lwarp}
75 {%
76   Package #1 is not yet supported\MessageBreak
77   by lwarp’s HTML conversion%
78   \ifblank{#2}{}{%
79     .\MessageBreak
80     Package(s)\MessageBreak
81     \space\space#2\MessageBreak
82     may be useful instead%
83   }%
84 }
85 {%
86   Package #1 might conflict with lwarp in some way,\MessageBreak
87   or is superceded by another package.%
88   \ifblank{#2}{}{%
89     \MessageBreak
90     For possible alternatives, see package(s) #2.%

```

```

91   }%
92 }
93 }

```

`\LWR@afterloadnever`  $\langle\textit{badpackagename}\rangle$   $\langle\textit{replacementpkgnames}\rangle$

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```

94 \newcommand*\LWR@afterloadnever[2]{%
95   \ifdefstring{\LWR@tempone}{#1}{%
96     \LWR@loadnever{#1}{#2}%
97   }{%
98 }

```

`\LWR@earlyloadnever`  $\langle\textit{badpackagename}\rangle$   $\langle\textit{replacementpkgname}\rangle$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```

99 \newcommand*\LWR@earlyloadnever[2]{%
100   \IfPackageLoadedTF{#1}{%
101     \LWR@loadnever{#1}{#2}%
102   }{%
103 }

```

`\LWR@earlyclassloadnever`  $\langle\textit{badclassname}\rangle$   $\langle\textit{replacementclassname}\rangle$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

104 \newcommand*\LWR@earlyclassloadnever[2]{%
105 \IfClassLoadedTF{#1}{%
106 \PackageError{lwarp}
107 {%
108   Class #1 is not supported\MessageBreak
109   by lwarp's HTML conversion%
110   \ifblank{#2}{}%
111     .\MessageBreak
112     #2 may be useful instead%
113   }%
114 }
115 {%
116   Class #1 might conflict with lwarp in some way,\MessageBreak
117   or is superceded by another class.%
118   \ifblank{#2}{}%
119     \MessageBreak
120     For a possible alternative, see #2.%
121   }%
122 }
123 }{\relax}%
124 }

```

## 20.2 Error for disallowed packages and classes loaded before lwarp

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```
125 \newcommand*{\LWR@checkloadnevers}{
126 \LWR@checkloadnever{ae}{cm-super, lmodern}
127 \LWR@checkloadnever{aeopl}{cm-super, lmodern}
128 \LWR@checkloadnever{aecc}{cm-super, lmodern}
129 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}
130 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}
131 \LWR@checkloadnever{bitfield}{bytefield}
```

`bxckatype` is based on CJK:

```
132 \LWR@checkloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

133 \LWR@checkloadnever{caption2}{caption}
134 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
135 \LWR@checkloadnever{colortab}{colortbl}
136 \LWR@checkloadnever{csvtools}{datatool}
137 \LWR@checkloadnever{doublespace}{setspace}
138 \LWR@checkloadnever{fancyheadings}{fancyhdr}
139 \LWR@checkloadnever{fncylab}{cleveref}
140 \LWR@checkloadnever{formula}{siunitx}
141 \LWR@checkloadnever{glossary}{glossaries}
```

`hangul` is not in TeXLive, and is not tested:

```
142 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

143 \LWR@checkloadnever{hyper}{hyperref}
144 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
145 \LWR@checkloadnever{newthm}{ntheorem}
146 \LWR@checkloadnever{pdfcprot}{microtype}
147 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}
148 \LWR@checkloadnever{rplain}{fancyhdr}
149 \LWR@checkloadnever{si}{siunitx}
150 \LWR@checkloadnever{sisyle}{siunitx}
151 \LWR@checkloadnever{slashbox}{diagbox}
152 \LWR@checkloadnever{statex}{statex2}
153 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}
154 \LWR@checkloadnever{ucs}{inputenc, inputencx}
155 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
```

The following may one day be supported by lwarp:

```
156 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
157 \LWR@checkloadnever{animate}{}
158 \LWR@checkloadnever{auto-pst-pdf}{}
159 \LWR@checkloadnever{auto-pst-pdf-lua}{}
160 \LWR@checkloadnever{algorithms}{}
161 \LWR@checkloadnever{arraycols}{}
162 \LWR@checkloadnever{bidi}{}
163 \LWR@checkloadnever{cals}{}

164 \LWR@checkloadnever{cellspace}{tbls}
```

165 \LWR@checkloadnever{cgloss4e}{}  
166 \LWR@checkloadnever{collcell}{}  
167 \LWR@checkloadnever{colophon}{}  
168 \LWR@checkloadnever{cooltooltips}{}  
169 \LWR@checkloadnever{covington}{}  
170 \LWR@checkloadnever{crbox}{}  
171 \LWR@checkloadnever{decision-table}{}  
172 \LWR@checkloadnever{dvgloss}{}  
173 \LWR@checkloadnever{ednotes}{}  
174 \LWR@checkloadnever{edfnotes}{}  
175 \LWR@checkloadnever{eledform}{}  
176 \LWR@checkloadnever{eledmac}{}  
177 \LWR@checkloadnever{embedfile}{}  
178 \LWR@checkloadnever{endnotes-hy}{endnotes}  
179 \LWR@checkloadnever{expex}{}  
180 \LWR@checkloadnever{fancytooltips}{}  
181 \LWR@checkloadnever{fixocgx}{}  
182 \LWR@checkloadnever{flowfram}{}  
183 \LWR@checkloadnever{gb4e}{}  
184 \LWR@checkloadnever{gmverse}{}  
185 \LWR@checkloadnever{graphbox}{}  
186 \LWR@checkloadnever{graphicxbox}{}  
187 \LWR@checkloadnever{hvfloat}{}  
188 \LWR@checkloadnever{inline-images}{}  
189 \LWR@checkloadnever{isorot}{rotating}  
190 \LWR@checkloadnever{ledmac}{}  
191 \LWR@checkloadnever{linguex}{}  
192 \LWR@checkloadnever{longdiv}{}  
193 \LWR@checkloadnever{longfigure}{}  
194 \LWR@checkloadnever{longtabu}{}  
195 \LWR@checkloadnever{mdwenv}{}  
196 \LWR@checkloadnever{mdwlist}{}  
197 \LWR@checkloadnever{mdwtab}{}  
198 \LWR@checkloadnever{navigator}{}  
199 \LWR@checkloadnever{nccpic}{}  
200 \LWR@checkloadnever{nccsect}{}  
201 \LWR@checkloadnever{newvbtm}{}  
202 \LWR@checkloadnever{ocg-p}{}  
203 \LWR@checkloadnever{ocgtools}{}  
204 \LWR@checkloadnever{ocgx}{}  
205 \LWR@checkloadnever{ocgx2}{}  
206 \LWR@checkloadnever{parrun}{}  
207 \LWR@checkloadnever{poemscol}{}  
208 \LWR@checkloadnever{poetry}{}  
209 \LWR@checkloadnever{program}{}  
210 \LWR@checkloadnever{proofread}{}  
211 \LWR@checkloadnever{pst-pdf}{}  
212 \LWR@checkloadnever{refstyle}{}  
213 \LWR@checkloadnever{robustindex}{}  
214 \LWR@checkloadnever{robustglossary}{}  
215 \LWR@checkloadnever{semioneside}{}  
216 \LWR@checkloadnever{slemph}{}  
217 \LWR@checkloadnever{snotez}{sidenotes}  
218 \LWR@checkloadnever{spacingtricks}{}  
219 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}  
220 \LWR@checkloadnever{syntax}{}  
221 \LWR@checkloadnever{tablists}{}  
222 \LWR@checkloadnever{tabto}{}  
223 \LWR@checkloadnever{tabu}{}  
224 \LWR@checkloadnever{tabularht}{}



```

225 \LWR@checkloadnever{tabularkv}{}
226 \LWR@checkloadnever{thumby}{}
227 \LWR@checkloadnever{titles}{}
228 \LWR@checkloadnever{typehtml}{}
229 \LWR@checkloadnever{unicode-bidi}{}
230 \LWR@checkloadnever{vcell}{}
231 \LWR@checkloadnever{xhfill}{}
232 }

```

`\LWR@checkloadnever {<badpackagename>} {<replacementpkgname>}`

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```
233 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever
```

Now check for incompatible packages which have been loaded before `lwarp`:

```
234 \LWR@checkloadnevers
```

The older CJK and CJKutf8 only work with `xeCJK`:

```

235 \IfPackageLoadedTF{xeCJK}{}{
236   \LWR@checkloadnever{CJK}{ctex, xeCJK}
237   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
238 }

```

Some classes do not work with `lwarp`:

```

239 \LWR@earlyclassloadnever{beamer}{beamerarticle}
240 \LWR@earlyclassloadnever{jarticle}{ujarticle}
241 \LWR@earlyclassloadnever{jbook}{ujbook}
242 \LWR@earlyclassloadnever{jreport}{ujreport}
243 \LWR@earlyclassloadnever{tarticle}{utarticle}
244 \LWR@earlyclassloadnever{tbook}{utbook}
245 \LWR@earlyclassloadnever{treport}{utreport}
246 \LWR@earlyclassloadnever{novel}{}
247 \LWR@earlyclassloadnever{powerdot}{}

```

### 20.3 Enforcing package loading after `lwarp`

Packages which should only be loaded after `lwarp` are tested here to trip an error of they have already been loaded.

The following packages must be loaded after `lwarp`:

```

248 \LWR@loadafter{2in1}
249 \LWR@loadafter{2up}
250 \LWR@loadafter{a4}
251 \LWR@loadafter{a4wide}
252 \LWR@loadafter{a5comb}
253 \LWR@notmemoirloadafter{abstract}

```

```
254 \LWR@loadafter{academicons}
255 \LWR@loadafter{accents}
256 \LWR@loadafter{accessibility}
257 \LWR@loadafter{accsupp}
258 \LWR@loadafter{acro}
259 \LWR@loadafter{acronym}
260 \LWR@loadafter{adjmulticol}
261 \LWR@loadafter{addlines}
262 \LWR@loadafter{afterpage}
263 \LWR@loadafter{algorithm2e}
264 \LWR@loadafter{algorithmicx}
265 \LWR@loadafter{alltt}
266 \LWR@loadafter{amscdx}
267 % \LWR@loadafter{amsmath}% may be preloaded
268 % \LWR@loadafter{amsthm}% may be preloaded
269 \LWR@loadafter{anonchap}
270 \LWR@loadafter{ansize}
271 \LWR@notmemoirloadafter{appendix}
272 \LWR@loadafter{ar}
273 \LWR@loadafter{arabicfront}
274 \LWR@notmemoirloadafter{array}
275 \LWR@loadafter{arydshln}
276 \LWR@loadafter{asymptote}
277 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
278 \LWR@loadafter{attachfile}
279 \LWR@loadafter{attachfile2}
280 \LWR@loadafter{authblk}
281 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
282 \LWR@loadafter{autobreak}
283 \LWR@loadafter{autonum}
284 \LWR@loadafter{awesomebox}
285 \LWR@loadafter{axessibility}
286 \LWR@loadafter{axodraw2}
287 \LWR@loadafter{backnaur}
288 \LWR@loadafter{backref}
289 \LWR@loadafter{balance}
290 \LWR@loadafter{bbding}
291 \LWR@loadafter{beamerarticle}
292 \LWR@loadafter{bigdelim}
293 \LWR@loadafter{bigfoot}
294 \LWR@loadafter{bigstrut}
295 \LWR@loadafter{bitpattern}
296 \LWR@loadafter{blowup}
297 \LWR@loadafter{bm}
298 \LWR@loadafter{booklet}
299 \LWR@loadafter{bookmark}
300 \LWR@notmemoirloadafter{booktabs}
301 \LWR@loadafter{bophook}
302 \LWR@loadafter{bounddvi}
303 \LWR@loadafter{boxedminipage}
304 \LWR@loadafter{boxedminipage2e}
305 \LWR@loadafter{braket}
306 \LWR@loadafter{breakurl}
307 \LWR@loadafter{breqn}
308 \LWR@loadafter{bsheaders}
309 \LWR@loadafter{bussproofs}
310 \LWR@loadafter{bypapersize}
311 \LWR@loadafter{bytefield}
312 \LWR@loadafter{ccicons}
313 \LWR@loadafter{cancel}
```

```
314 \LWR@loadafter{canoniclayout}
315 \LWR@loadafter{caption}
316 \LWR@loadafter{caption2}
317 \LWR@loadafter{caption3}
318 \LWR@loadafter{cases}
319 % catoptions is supported by the lwarp core
320 % \LWR@loadafter{ccaption}% may be preloaded by memoir
321 \LWR@loadafter{centerlastline}
322 % \LWR@loadafter{centernot}% may be preloaded by newtx
323 \LWR@loadafter{changebar}
324 \LWR@loadafter{changelayout}
325 \LWR@notmemoirloadafter{changepage}
326 \LWR@loadafter{changes}
327 \LWR@loadafter{chappg}
328 \LWR@loadafter{chapterbib}
329 \LWR@loadafter{chemfig}
330 \LWR@loadafter{chemformula}
331 \LWR@loadafter{chemgreek}
332 \LWR@loadafter{chemmacros}
333 \LWR@loadafter{chemnum}
334 \LWR@loadafter{chkfloat}
335 \LWR@notmemoirloadafter{chnpage}
336 \LWR@loadafter{cite}
337 \LWR@loadafter{citeref}
338 \LWR@loadafter{classicthesis}
339 \LWR@loadafter{cleveref}
340 % cmbright may be preloaded
341 \LWR@loadafter{cmdtrack}
342 \LWR@loadafter{colonequals}
343 \LWR@loadafter{color}
344 \LWR@loadafter{colortbl}
345 \LWR@loadafter{continue}
346 \LWR@loadafter{copyrightbox}
347 \LWR@notmemoirloadafter{crop}
348 % ctex must be loaded before lwarp
349 \LWR@loadafter{ctable}
350 \LWR@loadafter{cuted}
351 \LWR@loadafter{cutwin}
352 \LWR@loadafter{dblfloatfix}
353 \LWR@loadafter{dblfnote}
354 \LWR@notmemoirloadafter{dcolumn}
355 \LWR@loadafter{decimal}
356 \LWR@loadafter{decorule}
357 \LWR@loadafter{diagbox}
358 \LWR@loadafter{dingbat}
359 \LWR@loadafter{DotArrow}
360 \LWR@loadafter{dotlessi}
361 \LWR@loadafter{dprogress}
362 \LWR@loadafter{draftcopy}
363 \LWR@loadafter{draftfigure}
364 \LWR@loadafter{draftwatermark}
365 \LWR@loadafter{drftcite}
366 \LWR@loadafter{easy-todo}
367 \LWR@loadafter{ebook}
368 \LWR@loadafter{econometrics}
369 \LWR@loadafter{ed}
370 \LWR@loadafter{ellipsis}
371 \LWR@loadafter{embrac}
372 \LWR@loadafter{emptypage}
373 \LWR@loadafter{endfloat}
```

```
374 \LWR@loadafter{endheads}
375 \LWR@loadafter{endnotes}
376 \LWR@loadafter{engtlc}
377 \LWR@loadafter{enotez}
378 \LWR@notmemoirloadafter{enumerate}
379 \LWR@loadafter{enumitem}
380 \LWR@notmemoirloadafter{epigraph}
381 \LWR@loadafter{epsf}
382 \LWR@loadafter{epsfig}
383 \LWR@loadafter{epstopdf}
384 \LWR@loadafter{epstopdf-base}
385 \LWR@loadafter{eqlist}
386 \LWR@loadafter{eqparbox}
387 \LWR@loadafter{errata}
388 \LWR@loadafter{eso-pic}
389 \LWR@loadafter{esvect}
390 \LWR@loadafter{etoc}
391 \LWR@loadafter{eurosym}
392 \LWR@loadafter{everypage}
393 % \LWR@loadafter{everyshi}% now in LaTeX core
394 \LWR@loadafter{extarrows}
395 \LWR@loadafter{extramarks}
396 \LWR@loadafter{fancybox}
397 \LWR@loadafter{fancyhdr}
398 \LWR@loadafter{fancypar}
399 \LWR@loadafter{fancyref}
400 \LWR@loadafter{fancytabs}
401 \LWR@loadafter{fancyvrb}
402 \LWR@loadafter{fbox}
403 \LWR@loadafter{fewerfloatpages}
404 \LWR@loadafter{figcaps}
405 \LWR@loadafter{figsize}
406 \LWR@loadafter{fitbox}
407 \LWR@loadafter{fix2col}
408 \LWR@loadafter{fixmath}
409 \LWR@loadafter{fixme}
410 \LWR@loadafter{fixmetodonotes}
411 \LWR@loadafter{flafter}
412 \LWR@loadafter{flippdf}
413 \LWR@loadafter{float}
414 \LWR@loadafter{floatflt}
415 \LWR@loadafter{floatpag}
416 \LWR@loadafter{floatrow}
417 \LWR@loadafter{fltrace}
418 \LWR@loadafter{flushend}
419 \LWR@loadafter{fnbreak}
420 \LWR@loadafter{fncychap}
421 \LWR@loadafter{fnlineno}
422 \LWR@loadafter{fnpara}
423 \LWR@loadafter{fnpos}
424 \LWR@loadafter{fontawesome}
425 \LWR@loadafter{fontawesome5}
426 % fontenc must be loaded before lwarp
427 % fontspec must be loaded before lwarp
428 \LWR@loadafter{footmisc}
429 \LWR@loadafter{footnote}
430 \LWR@loadafter{footnotebackref}
431 \LWR@loadafter{footnotehyper}
432 \LWR@loadafter{footnoterange}
433 \LWR@loadafter{footnpag}
```

```
434 \LWR@loadafter{foreign}
435 \LWR@loadafter{forest}
436 \LWR@loadafter{fouridx}
437 % fourier may be loaded before lwarp
438 \LWR@loadafter{framed}
439 \LWR@loadafter{froufrou}
440 \LWR@loadafter{ftcap}
441 \LWR@loadafter{ftnright}
442 \LWR@loadafter{fullminipage}
443 \LWR@loadafter{fullpage}
444 \LWR@loadafter{fullwidth}
445 \LWR@loadafter{fvextra}
446 \LWR@loadafter{fwlw}
447 \LWR@loadafter{gensymb}
448 \LWR@loadafter{gentombow}
449 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
450 \LWR@loadafter{ghsystem}
451 \LWR@loadafter{gindex}
452 \LWR@loadafter{glossaries}
453 \LWR@loadafter{gmeometric}
454 % \LWR@loadafter{graphics}% pre-loaded by xunicode
455 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
456 \LWR@loadafter{gloss}
457 \LWR@loadafter{glossary}
458 \LWR@loadafter{grffile}
459 \LWR@loadafter{grid}
460 \LWR@loadafter{grid-system}
461 \LWR@loadafter{gridset}
462 \LWR@loadafter{hang}
463 \LWR@loadafter{hanging}
464 \LWR@loadafter{hepunits}
465 \LWR@loadafter{hhline}
466 \LWR@loadafter{hhtensor}
467 \LWR@loadafter{hypbmsec}
468 \LWR@loadafter{hypcap}
469 \LWR@loadafter{hypdestopt}
470 \LWR@loadafter{hypernat}
471 \LWR@loadafter{hyperref}
472 \LWR@loadafter{hyperxmp}
473 \LWR@loadafter{hyphenat}
474 \LWR@loadafter{idxlayout}
475 \LWR@loadafter{ifoddpages}
476 \LWR@loadafter{imakeidx}
477 \LWR@loadafter{imphnat}
478 \LWR@notmemoirloadafter{index}
479 % inputenc must be loaded before lwarp
480 % inputenx must be loaded before lwarp
481 % inputtrc may be loaded before lwarp
482 \LWR@loadafter{intopdf}
483 \LWR@loadafter{isomath}
484 \LWR@loadafter{isotope}
485 \LWR@loadafter{jurabib}
486 \LWR@loadafter{karnaugh-map}
487 \LWR@loadafter{keyfloat}
488 \LWR@loadafter{keystroke}
489 % kpfonts may be loaded before lwarp
490 % kpfonts-otf may be loaded before lwarp
491 \LWR@loadafter{layaureo}
492 \LWR@loadafter{layout}
493 \LWR@loadafter{layouts}
```

```
494 \LWR@loadafter{leading}
495 \LWR@loadafter{leftidx}
496 \LWR@loadafter{letterspace}
497 \LWR@loadafter{letrine}
498 % libertinustlmath may be loaded before lwarp
499 \LWR@loadafter{lineno}
500 \LWR@loadafter{lips}
501 \LWR@loadafter{listings}
502 \LWR@loadafter{listliketab}
503 \LWR@loadafter{\lletjp-siunitx}
504 \LWR@loadafter{\lletjp-tascmac}
505 \LWR@loadafter{longtable}
506 \LWR@loadafter{lpic}
507 \LWR@loadafter{lscape}
508 \LWR@loadafter{ltablex}
509 \LWR@loadafter{ltcaption}
510 \LWR@loadafter{ltxgrid}
511 \LWR@loadafter{ltxtable}
512 \LWR@loadafter{lua-check-hyphen}
513 \LWR@loadafter{lua-visual-debug}
514 \LWR@loadafter{luacolor}
515 \LWR@loadafter{luamplib}
516 \LWR@loadafter{luatodonotes}
517 \LWR@loadafter{luavlna}
518 \LWR@loadafter{lyluatex}
519 \LWR@loadafter{magaz}
520 \LWR@notmemoirloadafter{makeidx}
521 \LWR@loadafter{manyfoot}
522 \LWR@loadafter{marginfit}
523 \LWR@loadafter{marginfix}
524 \LWR@loadafter{marginnote}
525 \LWR@loadafter{marvosym}
526 % mathalpha may be loaded before lwarp
527 \LWR@loadafter{mathastext}
528 \LWR@loadafter{mathcomp}
529 \LWR@loadafter{mathdesign}
530 \LWR@loadafter{mathdots}
531 \LWR@loadafter{mathfixs}
532 \LWR@loadafter{mathpazo}
533 \LWR@loadafter{mathptmx}
534 \LWR@loadafter{mathspec}
535 \LWR@loadafter{mathtools}
536 \LWR@loadafter{mattens}
537 \LWR@loadafter{maybemath}
538 \LWR@loadafter{mcaption}
539 \LWR@loadafter{mdframed}
540 \LWR@loadafter{mdwmath}
541 \LWR@loadafter{media9}
542 \LWR@loadafter{memhfixc}
543 \LWR@loadafter{menukeys}
544 \LWR@loadafter{metalogo}
545 \LWR@loadafter{metalogox}
546 \LWR@loadafter{mhchem}
547 \LWR@loadafter{microtype}
548 \LWR@loadafter{midfloat}
549 \LWR@loadafter{midpage}
550 \LWR@loadafter{minibox}
551 \LWR@loadafter{minitoc}
552 \LWR@loadafter{minted}
553 \LWR@loadafter{mismath}
```

```
554 \LWR@loadafter{mleftright}
555 % morefloats must be allowed early for print mode
556 \LWR@notmemoirloadafter{moreverb}
557 % morewrites must be loaded before lwarp
558 \LWR@notmemoirloadafter{movie15}
559 \LWR@notmemoirloadafter{mparhack}
560 \LWR@loadafter{multibib}
561 \LWR@loadafter{multicap}
562 %\LWR@loadafter{multicol}% loaded by ltxdoc
563 \LWR@loadafter{multicolrule}
564 \LWR@loadafter{multimedia}
565 \LWR@loadafter{multiobjective}
566 \LWR@loadafter{multirow}
567 \LWR@loadafter{multitoc}
568 \LWR@loadafter{musicography}
569 \LWR@loadafter{mwe}
570 \LWR@loadafter{nameauth}
571 \LWR@loadafter{nameref}
572 \LWR@loadafter{natbib}
573 \LWR@notmemoirloadafter{nccfancyhdr}
574 \LWR@loadafter{nccfoots}
575 \LWR@loadafter{nccmath}
576 \LWR@notmemoirloadafter{needspace}
577 % newclude must be loaded before lwarp
578 % newpxmath may be preloaded
579 % newtxmath may be loaded before lwarp
580 % newtxsf may be loaded before lwarp
581 % newunicodechar must be loaded before lwarp
582 \LWR@notmemoirloadafter{nextpage}
583 \LWR@loadafter{nicefrac}
584 \LWR@loadafter{niceframe}
585 \LWR@loadafter{nicematrix}
586 \LWR@loadafter{noitcruL}
587 \LWR@loadafter{noIbreaks}
588 \LWR@loadafter{nomencI}
589 \LWR@loadafter{nonfloat}
590 \LWR@loadafter{nonumonpart}
591 \LWR@loadafter{nopageno}
592 \LWR@loadafter{notes}
593 \LWR@loadafter{notespages}
594 \LWR@loadafter{nowidow}
595 \LWR@loadafter{ntheorem}
596 \LWR@loadafter{octave}
597 \LWR@loadafter{orcidlink}
598 \LWR@loadafter{overpic}
599 \LWR@loadafter{pagegrid}
600 \LWR@notmemoirloadafter{pagenote}
601 \LWR@loadafter{pagesel}
602 \LWR@loadafter{paralist}
603 \LWR@loadafter{parallel}
604 \LWR@loadafter{parcolumns}
605 \LWR@loadafter{parnotes}
606 \LWR@notmemoirloadafter{parskip}
607 \LWR@loadafter{pbalance}
608 \LWR@loadafter{pbox}
609 \LWR@loadafter{pdfcol}
610 \LWR@loadafter{pdfcolfoot}
611 \LWR@loadafter{pdfcolmk}
612 \LWR@loadafter{pdfcolparallel}
613 \LWR@loadafter{pdfcolparcolumns}
```

---

```
614 \LWR@loadafter{pdfcomment}
615 \LWR@loadafter{pdfcrypt}
616 \LWR@loadafter{pdfscape}
617 \LWR@loadafter{pdfmarginpar}
618 \LWR@loadafter{pdfpages}
619 \LWR@loadafter{pdfprivacy}
620 \LWR@loadafter{pdfrender}
621 \LWR@loadafter{pdfsync}
622 \LWR@loadafter{pdftricks}
623 \LWR@loadafter{pdfx}
624 \LWR@loadafter{perpage}
625 \LWR@loadafter{pfnote}
626 \LWR@loadafter{phfqit}
627 \LWR@loadafter{physics}
628 \LWR@loadafter{physunits}
629 \LWR@loadafter{picinpar}
630 \LWR@loadafter{pifont}
631 \LWR@loadafter{pinlabel}
632 \LWR@loadafter{placeins}
633 \LWR@loadafter{plarray}
634 \LWR@loadafter{plarydshln}
635 \LWR@loadafter{plexarray}
636 \LWR@loadafter{plextarydshln}
637 \LWR@loadafter{plcolortbl}
638 \LWR@loadafter{plextdelarray}
639 \LWR@loadafter{plimsoll}
640 \LWR@loadafter{prelim2e}
641 \LWR@loadafter{prettyref}
642 \LWR@loadafter{preview}
643 \LWR@loadafter{psfrag}
644 \LWR@loadafter{psfragx}
645 \LWR@loadafter{pst-eps}
646 \LWR@loadafter{pstool}
647 \LWR@loadafter{pstricks}
648 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
649 \LWR@loadafter{pxeveryshi}
650 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
651 \LWR@loadafter{pxftnright}
652 \LWR@loadafter{pxjahyper}
653 \LWR@loadafter{quotchap}
654 \LWR@loadafter{quoting}
655 \LWR@loadafter{ragged2e}
656 \LWR@loadafter{refcheck}
657 \LWR@loadafter{register}
658 \LWR@loadafter{relsize}
659 \LWR@loadafter{repeatindex}
660 \LWR@loadafter{resizgather}
661 \LWR@loadafter{returntogrid}
662 \LWR@loadafter{rlepsf}
663 \LWR@loadafter{rmathbr}
664 \LWR@loadafter{rmpage}
665 \LWR@loadafter{romanbar}
666 \LWR@loadafter{romanbarpagenumber}
667 \LWR@loadafter{rotating}
668 \LWR@loadafter{rotfloat}
669 \LWR@loadafter{rviewport}
670 \LWR@loadafter{savetrees}
671 % scalefnt is loaded by babel-french
672 \LWR@loadafter{scalereel}
673 \LWR@loadafter{schemata}
```



---

674 \LWR@loadafter{scrextend}  
675 \LWR@loadafter{scrhack}  
676 \LWR@loadafter{scrLayer}  
677 \LWR@loadafter{scrLayer-notecolumn}  
678 \LWR@loadafter{scrLayer-scrpage}  
679 \LWR@loadafter{scrpage2}  
680 \LWR@loadafter{section}  
681 \LWR@loadafter{sectionbreak}  
682 \LWR@loadafter{sectsty}  
683 \LWR@loadafter{selectp}  
684 \LWR@loadafter{semantic-markup}  
685 \LWR@notmemoirloadafter{setspace}  
686 \LWR@loadafter{shadow}  
687 \LWR@loadafter{shapepar}  
688 \LWR@notmemoirloadafter{showidx}  
689 \LWR@loadafter{showLabels}  
690 \LWR@loadafter{showkeys}  
691 \LWR@loadafter{showtags}  
692 \LWR@loadafter{shuffle}  
693 \LWR@loadafter{sidecap}  
694 \LWR@loadafter{sidenotes}  
695 \LWR@loadafter{simplebnf}  
696 \LWR@loadafter{SIunits}  
697 \LWR@loadafter{siunitx}  
698 \LWR@loadafter{siunitx-v2}  
699 \LWR@loadafter{skmath}  
700 \LWR@loadafter{slantsc}  
701 \LWR@loadafter{slashed}  
702 \LWR@loadafter{soul}  
703 \LWR@loadafter{soulpos}  
704 \LWR@loadafter{soulutf8}  
705 \LWR@loadafter{splitbib}  
706 \LWR@loadafter{splitidx}  
707 \LWR@loadafter{srcltx}  
708 \LWR@loadafter{srctex}  
709 \LWR@loadafter{stabular}  
710 \LWR@loadafter{stackengine}  
711 \LWR@loadafter{stackrel}  
712 \LWR@loadafter{statex2}  
713 \LWR@loadafter{statistics}  
714 \LWR@loadafter{statmath}  
715 \LWR@loadafter{steinmetz}  
716 \LWR@notltjloadafter{stfloats}  
717 \LWR@loadafter{struktex}  
718 \LWR@loadafter{subcaption}  
719 \LWR@loadafter{subfig}  
720 \LWR@loadafter{subfigure}  
721 \LWR@loadafter{subsupscripts}  
722 \LWR@loadafter{supertabular}  
723 \LWR@loadafter{svg}  
724 \LWR@loadafter{swfigure}  
725 \LWR@loadafter{sympytex}  
726 \LWR@loadafter{syntonly}  
727 \LWR@loadafter{t1inc}  
728 \LWR@loadafter{tabfigures}  
729 \LWR@loadafter{tabls}  
730 \LWR@loadafter{tablefootnote}  
731 \LWR@notmemoirloadafter{tabularx}  
732 \LWR@loadafter{tabulary}  
733 \LWR@loadafter{tagpdf}

```
734 \LWR@loadafter{tagpdf-mc-code-generic}
735 \LWR@loadafter{tagpdf-mc-code-lua}
736 \LWR@loadafter{tascmac}
737 \LWR@loadafter{tcolorbox}
738 \LWR@loadafter{tensor}
739 \LWR@loadafter{termcal}
740 \LWR@loadafter{textarea}
741 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
742 \LWR@loadafter{textfit}
743 \LWR@loadafter{textpos}
744 \LWR@loadafter{theorem}
745 \LWR@loadafter{thinsp}
746 \LWR@loadafter{thm-listof}
747 \LWR@loadafter{thm-restate}
748 \LWR@loadafter{thmbox}
749 \LWR@loadafter{thmtools}
750 \LWR@loadafter{threadcol}
751 \LWR@loadafter{threeparttable}
752 \LWR@loadafter{threeparttablex}
753 \LWR@loadafter{thumb}
754 \LWR@loadafter{thumbs}
755 \LWR@loadafter{tikz}
756 \LWR@loadafter{tikz-image-labels}
757 \LWR@loadafter{titleps}
758 \LWR@loadafter{titlesec}
759 \LWR@loadafter{titletoc}
760 \LWR@notmemoirloadafter{titling}
761 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
762 \LWR@notmemoirloadafter{tocbibind}
763 \LWR@loadafter{tocdata}
764 \LWR@loadafter{toccenter}
765 \LWR@notmemoirloadafter{tocloft}
766 \LWR@loadafter{tocstyle}
767 \LWR@loadafter{todo}
768 \LWR@loadafter{todonotes}
769 \LWR@loadafter{topcapt}
770 \LWR@loadafter{tram}
771 \LWR@loadafter{transparent}
772 \LWR@loadafter{trimclip}
773 \LWR@loadafter{trivfloat}
774 \LWR@loadafter{truncate}
775 \LWR@loadafter{turnthepage}
776 \LWR@loadafter{twoup}
777 % \LWR@loadafter{txfonts}% may be loaded before lwarp
778 % txgreek may be loaded before lwarp

779 % \LWR@loadafter{typearea}% preloaded by koma-script classes
780 \LWR@loadafter{typicons}
781 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
782 \LWR@loadafter{umoline}
783 \LWR@loadafter{underscore}
784 % unicode-math may be loaded before lwarp
785 \LWR@loadafter{units}
786 \LWR@loadafter{unitsdef}
787 \LWR@loadafter{upgreek}
788 \LWR@loadafter{upref}
789 \LWR@loadafter{url}
790 \LWR@loadafter{ushort}
791 \LWR@loadafter{uspace}
792 \LWR@loadafter{varioref}
```

```

793 \LWR@notmemoirloadafter{verse}
794 \LWR@loadafter{versonotes}
795 \LWR@loadafter{vertbars}
796 \LWR@loadafter{vmargin}
797 \LWR@loadafter{vowel}
798 \LWR@loadafter{vpe}
799 \LWR@loadafter{vwcol}
800 \LWR@loadafter{wallpaper}
801 \LWR@loadafter{watermark}
802 \LWR@loadafter{widetable}
803 \LWR@loadafter{widows-and-orphans}
804 \LWR@loadafter{witharrows}
805 \LWR@loadafter{wrapfig}
806 \LWR@loadafter{wrapfig2}
807 \LWR@loadafter{xbmks}
808 \LWR@loadafter{xcolor}
809 \LWR@loadafter{xexchangebar}
810 \LWR@loadafter{xellipsis}
811 % xetexko must be loaded before lwarp
812 \LWR@loadafter{xevlna}
813 \LWR@loadafter{xfakebold}
814 \LWR@loadafter{xfrac}
815 \LWR@loadafter{xltabular}
816 \LWR@loadafter{xltextra}
817 \LWR@loadafter{xmpincl}
818 \LWR@loadafter{xpiano}
819 \LWR@loadafter{xpinyin}
820 \LWR@loadafter{xr}
821 \LWR@loadafter{xr-hyper}
822 \LWR@loadafter{xtab}
823 % xunicode must be loaded before lwarp
824 \LWR@loadafter{xurl}
825 \LWR@loadafter{xy}
826 \LWR@loadafter{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

827 \newcommand{\LWR@mdfive}[1]{%
828   \PackageError{lwarp}
829     {No MD5 macro was found}
830     {%
831       Lwarp must find the macros \protect\pdfmdfivesum\space
832       or \protect\mdfivesum.%
833     }
834 }

```

The default for PDF<sup>L</sup>ATEX, DVI<sup>L</sup>ATEX, up<sup>L</sup>ATEX, etc:

```
835 \let\LWR@mdfive\pdfmdfivesum
```

For Lua<sup>L</sup>ATEX:

```

836 \ifLuaTeX
837 \RequirePackage{pdfTeXcmds}

```

```
838 \let\LWR@mdfive\pdf@mdfivesum
839 \fi
```

For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X:

```
840 \ifXeTeX
841 \@ifundefined{pdf@mdfivesum}{}
842   {\let\LWR@mdfive\pdf@mdfivesum}
843 \@ifundefined{mdfivesum}{}
844   {\let\LWR@mdfive\mdfivesum}
845 \fi
```

## 22 PDF L<sup>A</sup>T<sub>E</sub>X T1 and UTF-8 encoding

When using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```
846 \newcommand*\LWR@pdfencoding}{%
847   \RequirePackage[T1]{fontenc}
848
849   \IfPackageLoadedTF{inputenc}{}{
850     \IfPackageLoadedTF{inputenx}{}{
851       \RequirePackage[utf8]{inputenc}
852     }
853   }
854 }

855 \ifPDFTeX% pdflatex or dvi latex
856   \LWR@pdfencoding
857 \fi
858
859 \ifpTeX
860   \LWR@pdfencoding
861 \fi
```

## 23 Unicode input characters

**for HTML & PRINT:** If using *pdf<sub>l</sub>atex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```
862 \ifpTeX
```

```

863 \else
864 \RequirePackage{newunicodechar}
865
866 \newunicodechar{*}{\texttimes}
867
868 \ifPDFTeX% pdflatex or dvi latex
869 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
870 \newunicodechar{fi}{fi}
871 \newunicodechar{fl}{fl}
872 \newunicodechar{ffi}{ffi}
873 \newunicodechar{ffl}{ffl}
874 \newunicodechar{-}{---}
875 \newunicodechar{-}{--}
876 \fi
877
878 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF L<sup>A</sup>T<sub>E</sub>X, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

879 \ifxetexorluatex
880 \else
881   \ifdefstring{\f@family}{cmr}{
882     \IfFileExists{type1ec.sty}% found in cm-super
883     {}
884     {% cm-super not installed
885       \IfFileExists{lmodern.sty}{
886         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
887         \RequirePackage{lmodern}
888       }{
889         \PackageError{lwarp}
890         {%
891           Lwarp requires a vector font.\MessageBreak
892           Install and load cm-super, lmodern, or another\MessageBreak
893           Type-1 vector font before loading lwarp.\MessageBreak
894           Enter 'H' for possible solutions%
895         }
896         {%
897           Install cm-super or lmodern.\MessageBreak
898           If lmodern, load it before lwarp:\MessageBreak
899           \space\space\protect\usepackage{lmodern}\MessageBreak
900           \space\space\protect\usepackage{lwarp}%
901         }
902       }
903     }% cm-super not installed
904   }{% f@family
905 \fi

```

## 25 Upright quotes

In PDF T<sub>E</sub>X, preserve upright quotes in verbatim text. upquote also loads textcomp.

```

906 \ifPDFTeX
907 \RequirePackage{upquote}
908 \fi
909
910 \ifpTeX
911   \RequirePackage{upquote}
912 \fi

```

## 26 Avoid bad font combinations

For Xe<sub>L</sub>ATEX and Lua<sub>L</sub>ATEX, certain font combinations cause problems with lwarp.

libertinus-otf has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

913 \ifxetexorluatex
914   \AtBeginDocument{
915     \IfPackageLoadedTF{kpfonts}{
916       \PackageError{lwarp}
917         {%
918           When using XeLaTeX or LuaLaTeX, \MessageBreak
919           use kpfonts-otf instead of kpfonts%
920         }
921       {%
922         Replace: \protect\usepackage{kpfonts}\MessageBreak
923         with: \protect\usepackage{kpfonts-otf}
924       }
925     }{}
926   }
927 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

928 \newlength{\LWR@templengthone}
929 \newlength{\LWR@templengthtwo}
930 \newlength{\LWR@templengththree}
931 \newcounter{\LWR@tempcountone}

```

### 27.2 Lengths and units

`\LWR@providelength` `{\lengthname}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

932 \newcommand*\LWR@providelength[1]{%
933   \ifdeflength{#1}{\newlength{#1}}%
934 }

```

`\LWR@convertto` `{\dest unit}` `{\length}`

Prints a length in the given units, without printing the unit itself.

```
935 \newcommand*{\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

```
\LWR@printpercentlength {<smaller>} {<larger>}
```

Prints a percent ratio of the two lengths.

```
936 \newcommand*{\LWR@printpercentlength}[2]{%
937   \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
938   \arabic{LWR@tempcountone}%
939 }
```

### 27.3 Counters

```
\defaddtcounter {<name>} {<value>}
```

Locally add to a counter.

```
940 \providecommand*{\defaddtcounter}[2]{%
941   \defcounter{#1}{\value{#1}+#2}%
942 }
```

### 27.4 Patching macros

```
\LWR@patcherror {<packagename>} {<macroname>}
```

Prints an error if could not patch a macro.

```
943 \newcommand*{\LWR@patcherror}[2]{%
944   \PackageError{Lwarp}%
945   {%
946     Unable to patch package #1,\MessageBreak
947     macro \LWRbackslash #2.\MessageBreak
948     Lwarp or #1 may need to be updated%
949   }%
950   {Please contact the maintainer of the Lwarp package.}%
951 }
```

### 27.5 Copying macros

```
\csNewCommandCopycs {<dest csname>} {<source csname>}
```

Given a cs-name for each, copies a macro to a new definition.

```
952 \providecommand*{\csNewCommandCopycs}[2]{%
953   \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%
954   \csname#2\endcsname%
955 }
```

```
\NewEnvironmentCopy {<dest>} {<source>}
```

Copies an environment to a new definition.

```
956 \providecommand*\NewEnvironmentCopy}[2]{%
957   \csNewCommandCopycs{#1}{#2}%
958   \csNewCommandCopycs{end#1}{end#2}%
959 }
```

## 27.6 Chinese text isolation

`\LWR@isolate`  $\langle text \rangle$  Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
960 \newcommand{\LWR@isolate}[1]{#1}%
961
962 \IfPackageLoadedTF{ctexpatch}{
963   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
964 }{}
965
966 \IfPackageLoadedTF{xeCJK}{
967   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
968 }{}
```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```
969 \newcommand*\LWR@disablepinyin{}
```

## 27.7 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```
970 \newcommand*\LWR@forceemptyline}{%
971   \LWR@origrule{0pt}{1\baselineskip}%
972   \LWR@orignewline%
973 }
```

## 27.8 Argument selection

`\LWR@thirdofthree`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$

`\LWR@fourthoffour`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$

`\LWR@firstoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@secondoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@thirdoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@fourthoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$



`\LWR@fifthoffive`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

Expands to the *n*th of the five arguments. Used for extra cross referencing.

```
974 \long\def\LWR@thirdofthree#1#2#3{#3}%
975 \long\def\LWR@fourthoffour#1#2#3#4{#4}%
976
977 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
978 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
979 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
980 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
981 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

## 27.9 Inside boxes

Greater than zero if currently inside a T<sub>E</sub>X box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
982 \newcounter{LWR@texboxdepth}
983 \setcounter{LWR@texboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T<sub>E</sub>X box.

```
984 \newcommand*{\LWR@maybe@orignewpage}{%
985   \LWR@traceinfo{LWR@maybe@orignewpage}%
986   \ifnumgreater{\value{LWR@texboxdepth}}{0}
987     {}%
988   {\LWR@orignewpage}%
989   \LWR@traceinfo{LWR@maybe@orignewpage done}%
990 }
```

## 27.10 Global boxes

`\LWR@gsavebox`  $\{\langle macroname \rangle\} \{\langle contents \rangle\}$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
991 \DeclareRobustCommand\LWR@gsavebox[1]{%
992   \ifnextchar(%)
993     {\LWR@gsavepicbox#1}{\ifnextchar[{\LWR@@gsavebox#1}{\LWR@gsbox#1}}}%
994 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
995   \color@setgroup#2\color@endgroup}}
996 \def\LWR@@gsavebox#1[#2]{%
997   \ifnextchar [ {\LWR@@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}
998 \long\def\LWR@@igsavebox#1[#2][#3]#4{%
999   \LWR@gsbox#1{\@makebox[#2][#3]{#4}}
1000 \def\LWR@@gsavepicbox#1(#2,#3){%
1001   \ifnextchar[%]
1002     {\LWR@@igsavepicbox#1(#2,#3)}{\LWR@@igsavepicbox#1(#2,#3)[ ]}
1003 \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
1004   \LWR@gsbox#1{\@makepicbox(#2,#3)[#4]{#5}}}
```

LWR@glrbox (*env.*) {*<macroname>*}

```

1005 \def\LWR@glrbox#1{%
1006   \edef\reserved@a{%
1007     \endgroup
1008     \global\setbox#1\hbox{%
1009       \begingroup\aftergroup}%
1010       \def\noexpand\@currentvir{\@currentvir}%
1011       \def\noexpand\@currentvline{\on@line}}%
1012   \reserved@a
1013   \@endpefalse
1014   \color@setgroup
1015   \ignorespaces}
1016 \let\LWR@endglrbox\LWR@endlrbox

```

## 27.11 Converting a macro name to a cs name

\macroto csname {*<macro name with backslash>*}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1017 \newcommand*\macroto csname}[1]{%
1018   \ifcat\relax\noexpand#1%
1019     \expandafter\expandafter\expandafter\@gobble\expandafter\string
1020     \fi
1021     #1%
1022 }

```

## 27.12 Title case

\LWRtexttitlecase

```

1023 \ExplSyntaxOn
1024 \newcommand*\LWRtexttitlecase}[1]{%
1025   \text_titlecase:n{#1}%
1026 }
1027 \ExplSyntaxOff

```

## 27.13 LetLtxMacros

\LWR@LetLtxMacros {*<newcsname>*} {*<oldcsname>*}

\LetLtxMacro with cs names.

```

1028 \newcommand*\LWR@LetLtxMacros}[2]{%
1029   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1030   \csname#2\endcsname%
1031 }

```

## 27.14 Absorbing a star

`\LWR@absorbstar {<csname>}`

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```
1032 \newcommand*{\LWR@absorbstar}[1]{%
1033   \LWR@LetLtxMacros{\LWR@origins@#1}{#1}%
1034   \csdef{#1}{\ifstar{\csuse{\LWR@origins@#1}}{\csuse{\LWR@origins@#1}}}
1035   \expandafter\robustify\csname #1\endcsname
1036 }
```

## 28 Operating-System portability

- Unix (*Prog*) `lwarp` tries to detect which operating system is being used. UNIX / MAC OS /
- Mac OS (*Prog*) LINUX is the default (collectively referred to as “UNIX” in the configuration files),
- Linux (*Prog*) and MS-WINDOWS is supported as well.
- MS-Windows (*Prog*) If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- Windows (*Prog*) When detected or specified, the operating-system path separator used by `lwarp`
- OSWindows (*Opt*) is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

### 28.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without `@` to easily allow their inclusion in the user’s document.

The literal `%` character:

```
1037 \let\LWRpercent\@percentchar
```

The literal `$` character:

```
1038 \catcode'\$=12
1039 \def\LWRdollar{\$}
1040 \def\LWRdollar{\$}% syntax highlighting
1041 \catcode'\$=3
```

The literal `&` character:

```
1042 \catcode'\&=12
1043 \def\LWRamp{&}
1044 \catcode'\&=4
```

The literal `\` character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
1045 \catcode'\&=0
1046 &catcode'\&=12
1047 &def&LWRbackslash{\}
```

```
1048 &catcode'\=0
1049 \catcode'\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
1050 \catcode'\&=1
1051 \catcode'\{=12
1052 \def\LWRleftbrace&{ }
1053 \catcode'\{=1
1054 \catcode'\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
1055 \catcode'\&=2
1056 \catcode'\}=12
1057 \def\LWRrightbrace{ }&
1058 \catcode'\}=2
1059 \catcode'\&=4
```

The literal # character:

```
1060 \catcode'\#=12
1061 \def\LWRhash{#}
1062 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1063 \def\LWRopquote{' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1064 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

## 28.2 Common portability code

`usingOSWindows` (*bool*) Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
1065 \newbool{usingOSWindows}
1066 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
1067 \newcommand*{\OSPathSymbol}{/}
```

## 28.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```
1068 \newcommand*\LWR@setOSWindows}
1069 {
1070 \booltrue{usingOSWindows}
1071 \renewcommand*\OSPathSymbol{\@backslashchar}
1072 \def\LWRopquote{"}
1073 \def\LWRopseq{\space\LWRamp\space\space}
1074 }
```

Test for windows during compile. The user may also specify `OSWindows` package option in case this test fails.

```
1075 \ifwindows
1076 \LWR@setOSWindows
1077 \fi
```

## 29 Package options

`kvoptions` (*Pkg*) Allows key/value package options.

```
1078 \RequirePackage{kvoptions}
1079 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpsetup` A user interface to set the keys:

```
1080 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

`warpingprint` (*bool*)

`warpingHTML` (*bool*)

`mathjax` (*bool*)

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` (*bool*)

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```
1081 \newbool{warpingprint}
1082 \newbool{warpingHTML}
1083 \newbool{mathjax}
1084 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and svg math if the user chose HTML output.

```
1085 \booltrue{warpingprint}%
1086 \boolfalse{warpingHTML}%
1087 \boolfalse{mathjax}%
```

`warpdisable` (*Opt*) If the `warpdisable` option is given, both boolean `warpingprint` and boolean `warpingHTML` are false, and may be used for `\ifbool` tests. This option may be used to disable almost all of `lwarp`, for testing purposes.

```
1088 \DeclareVoidOption{warpdisable}{%
1089   \PackageInfo{lwarp}{Using option 'warpdisable'}
1090   \boolfalse{warpingprint}%
1091   \boolfalse{warpingHTML}%
1092 }
```

`warpprint` (*Opt*) If the `warpprint` option is given, boolean `warpingprint` is true and boolean `warpingHTML` is false, and may be used for `\ifbool` tests.

```
1093 \DeclareVoidOption{warpprint}{%
1094   \PackageInfo{lwarp}{Using option 'warpprint'}
1095   \booltrue{warpingprint}%
1096   \boolfalse{warpingHTML}%
1097 }
```

`warpHTML` (*Opt*) Anything in the `warpHTML` environment will be generated for HTML output only.

`warpHTML` (*Opt*) If the `warpHTML` option is given, boolean `warpingHTML` is true and boolean `warpingprint` is false, and may be used for `\ifbool` tests.

```
1098 \DeclareVoidOption{warpHTML}{%
1099   \PackageInfo{lwarp}{Using option 'warpHTML'}%
1100   \booltrue{warpingHTML}%
1101   \boolfalse{warpingprint}%
1102 }
```

`mathsvg` (*Opt*) Option `mathsvg` selects SVG math display: If the `mathsvg` option is given, boolean `mathjax` is false, and may be used for `\ifbool` tests.

```
1103 \DeclareVoidOption{mathsvg}{%
1104   \PackageInfo{lwarp}{Using option 'mathsvg'}
1105   \boolfalse{mathjax}%
1106   \boolfalse{LWR@origmathjax}%
1107 }
```

`mathjax` (*Opt*) Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
1108 \DeclareVoidOption{mathjax}{%
1109   \PackageInfo{lwarp}{Using option 'mathjax'}
1110   \booltrue{mathjax}%
1111   \booltrue{LWR@origmathjax}%
1112 }
```

`BaseJobname` (*Opt*) Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1113 \DeclareStringOption[\jobname]{BaseJobname}
```

`ImagesDirectory` (*Opt*) Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.  
 Default: `\jobname-images`

```
1114 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

`ImagesName` (*Opt*) Option `ImagesName` sets the prefix to use for the `lateximage` images.  
 Default: `image-`

```
1115 \DeclareStringOption[image-]{ImagesName}
```

`makeindexStyle` (*Opt*) Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.20.  
 Default: `lwarp.ist`

```
1116 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

`xindyStyle` (*Opt*) Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.21.  
 Default: `lwarp.xdy`

```
1117 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```

`xindyLanguage` (*Opt*) Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.  
 Default: `english`

```
1118 \DeclareStringOption[english]{xindyLanguage}
```

`xindyCodepage` (*Opt*) Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.  
 Default: `utf8`

```
1119 \DeclareStringOption[utf8]{xindyCodepage}
```

`xindexConfig` (*Opt*) Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.22.  
 Default: `<empty>`

```
1120 \DeclareStringOption[]{xindexConfig}
```

`pdftotextEnc` (*Opt*) The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.  
 Default: `UTF-8`

```
1121 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

`lwarpmk` (*Opt*) Tells `lwarp` to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
1122 \newbool{LWR@creatinglwarpmk}
1123 \boolfalse{LWR@creatinglwarpmk}
1124
1125 \DeclareVoidOption{lwarpmk}{
1126   \PackageInfo{lwarpmk}{Using option 'lwarpmk'}
1127   \booltrue{LWR@creatinglwarpmk}
1128 }
```

`OSWindows` (*Opt*) Tells `lwarp` to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1129 \DeclareVoidOption{OSWindows}{
1130   \PackageInfo{lwarp}{Using option 'OSWindows'}
1131   \LWR@setOSWindows
1132 }
```

`HomeHTMLFilename` (*Opt*) The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

Default: `\BaseJobname`

```
1133 \DeclareStringOption[]{HomeHTMLFilename}
```

`HTMLFilename` (*Opt*) The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

Default: `<empty>`

```
1134 \DeclareStringOption[]{HTMLFilename}
```

`PrintLatexCmd` (*Opt*) The shell commands to use to compile the print document.

Default: `<automatic>`

```
1135 \DeclareStringOption[]{PrintLatexCmd}
```

`HTMLLatexCmd` (*Opt*) The shell commands to use to compile the HTML document.

Default: `<automatic>`

```
1136 \DeclareStringOption[]{HTMLLatexCmd}
```

`PrintIndexCmd` (*Opt*) The shell commands to use to compile the print indexes.

Default: `<empty>`

```
1137 \DeclareStringOption[]{PrintIndexCmd}
```

`HTMLIndexCmd` (*Opt*) The shell commands to use to compile the HTML indexes.

Default: `<empty>`

```
1138 \DeclareStringOption[]{HTMLIndexCmd}
```

`LatexmkIndexCmd` (*Opt*) The shell commands to be used by `latexmk` to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by `latexmk`.

Default: `<empty>`

```
1139 \DeclareStringOption[]{LatexmkIndexCmd}
```

`makeindex` (*Opt*) Tells `lwarp` to use `makeindex` for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `makeindex` with a single index file.

```
1140 \DeclareBoolOption[false]{makeindex}
```

`xindy` (*Opt*) Tells `lwarp` to use `xindy` for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindy` with a single index file.

```
1141 \DeclareBoolOption[false]{xindy}
```



`xindex` (*Opt*) Tells `lwarp` to use `xindex` for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindex` with a single index file.

```
1142 \DeclareBoolOption[false]{xindex}
```

`IndexRef` (*Opt*) Tells `lwarp` how to display the index entries in HTML output. See section 7.5.

Default: `cref`

```
1143 \DeclareStringOption[cref]{IndexRef}
```

`GlossaryCmd` (*Opt*) The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.

Default: `makeglossaries`

```
1144 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

`latexmk` (*Opt*) Option `latexmk` tells `lwarpmk` to use `latexmk` when compiling documents.

```
1145 \DeclareBoolOption[false]{latexmk}
```

`dvips` (*Opt*) Option `dvips` tells `lwarpmk` to use `dvips` when compiling DVI `latex` documents.

```
1146 \DeclareBoolOption[false]{dvips}
```

`dvipdfm` (*Opt*) Option `dvipdfm` tells `lwarpmk` to use `dvipdfm` when compiling DVI `latex` documents.

```
1147 \DeclareBoolOption[false]{dvipdfm}
```

`dvipdfmx` (*Opt*) Option `dvipdfmx` tells `lwarpmk` to use `dvipdfmx` when compiling DVI `latex` documents.

```
1148 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1149 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1150 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1151 \ifcsempy{LWR@HomeHTMLFilename}{
1152   \newcommand*\HomeHTMLFilename{\BaseJobname}
1153 }{
1154   \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1155 }
1156
1157 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1158 \newcommand*{\LWR@sanitized}{}
```

`\LWR@sanitize`  $\langle text \rangle$

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
1159 \newcommand*{\LWR@sanitize}[1]{%
1160 \edef\LWR@sanitized{#1}%
1161 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1162 }
```

Sanitize some string options to neutralize underscores.

```
1163 \LWR@sanitize{\LWR@BaseJobname}
1164 \edef\LWR@BaseJobname{\LWR@sanitized}
1165
1166 \LWR@sanitize{\LWR@ImagesDirectory}
1167 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1168
1169 \LWR@sanitize{\LWR@ImagesName}
1170 \edef\LWR@ImagesName{\LWR@sanitized}
```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the `lwarp xindy` option was selected, then likewise for *xindex* if the `xindex` option was selected.

```
1171 \ifdefempty{\LWR@PrintIndexCmd}{
1172   \renewcommand{\LWR@PrintIndexCmd}{%
1173     makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1174   }
1175   \ifbool{\LWR@xindy}{
1176     \renewcommand{\LWR@PrintIndexCmd}{%
1177       xindy
1178       -M \LWR@xindyStyle \space
1179       -L \LWR@xindyLanguage \space
1180       -C \LWR@xindyCodepage \space
1181       \jobname.idx%
1182     }
1183   }{}
1184   \ifbool{\LWR@xindex}{
1185     \ifdefvoid{\LWR@xindexConfig}{
1186       \renewcommand{\LWR@PrintIndexCmd}{%
1187         xindex
1188         \jobname.idx%
1189       }
1190     }{
1191       \renewcommand{\LWR@PrintIndexCmd}{%
1192         xindex
1193         -c \LWR@xindexConfig \space
1194         \jobname.idx%
1195       }
1196     }
1197   }{}
1198 }{}
```

```
1199
1200 \ifdefempty{\LWR@HTMLIndexCmd}{
1201   \renewcommand{\LWR@HTMLIndexCmd}{%
1202     makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1203   }
1204   \ifbool{\LWR@xindy}{
1205     \renewcommand{\LWR@HTMLIndexCmd}{%
1206       xindy
1207       -M \LWR@xindyStyle \space
1208       -L \LWR@xindyLanguage \space
1209       -C \LWR@xindyCodepage \space
1210       \jobname_html.idx%
1211     }
1212   }{}
1213   \ifbool{\LWR@xindex}{
1214     \ifdefvoid{\LWR@xindexConfig}{
1215       \renewcommand{\LWR@HTMLIndexCmd}{%
1216         xindex
1217         \jobname_html.idx%
1218       }
1219     }{
1220       \renewcommand{\LWR@HTMLIndexCmd}{%
1221         xindex
1222         -c \LWR@xindexConfig \space
1223         \jobname_html.idx%
1224       }
1225     }
1226   }{}
1227 }{}
1228
1229 \ifdefempty{\LWR@LatexmkIndexCmd}{
1230   \renewcommand{\LWR@LatexmkIndexCmd}{%
1231     makeindex -s \LWR@makeindexStyle%
1232   }
1233   \ifbool{\LWR@xindy}{
1234     \renewcommand{\LWR@LatexmkIndexCmd}{%
1235       xindy
1236       -M \LWR@xindyStyle \space
1237       -L \LWR@xindyLanguage \space
1238       -C \LWR@xindyCodepage%
1239     }
1240   }{}
1241   \ifbool{\LWR@xindex}{
1242     \ifdefvoid{\LWR@xindexConfig}{
1243       \renewcommand{\LWR@LatexmkIndexCmd}{%
1244         xindex
1245       }
1246     }{
1247       \renewcommand{\LWR@LatexmkIndexCmd}{%
1248         xindex
1249         -c \LWR@xindexConfig
1250       }
1251     }
1252   }{}
1253 }{}

```

## 29.2 Conditional compilation

`\warpprintonly` {<contents>}

Only process the contents if producing printed output.

```
1254 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly` {<contents>}

Only process the contents if producing HTML output.

```
1255 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

`comment` (*Pkg*) Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1256 \RequirePackage{comment}
```

`\LWR@includecomment` {<env name>} {<partial filename>}

`\LWR@excludecomment` {<env name>} {<partial filename>}

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment\_#2.cut”. Based on the `comment` package.

```
1257 \def\LWR@includecomment
1258 #1#2{\message{Lwarp: Including comment '#1'}%
1259   \csarg\def{After#1Comment}{%
1260     \CloseAndInputCutFile%
1261     \csundef{LWR@#1commentused}%
1262   }
1263   \csarg\def{#1}{%
1264     \endgroup
1265     \ifcsdef{LWR@#1commentused}{
1266       \PackageError{lwarp}%
1267         {Nested #1 environment}%
1268       {%
1269         Environment #1 cannot be nested.\MessageBreak
1270         This can happen when a package is loaded
1271         from inside a\MessageBreak
1272         #1 environment.%
1273       }%
1274     }{\relax}
1275     \csdef{LWR@#1commentused}{}
1276     \message{Including '#1' comment.}%
1277     \def\CommentCutFile{comment_#2.cut}
1278     \SetUpCutFile
1279     \ProcessComment{#1}
1280   }%
1281   \CommentEndDef{#1}
1282 }
1283
1284 \def\LWR@excludecomment
```

```

1285 #1#2{\message{Lwarp: Excluding comment '#1'}%
1286   \csarg\def{#1}{
1287     \endgroup
1288     \message{Excluding '#1' comment.}%
1289     \begingroup
1290     \def\CommentCutFile{comment_#2.cut}
1291     \def\ProcessCutFile{}%
1292     \def\ThisComment####1{}%
1293     \ProcessComment{#1}
1294   }%
1295   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1296   \CommentEndDef{#1}}

```

`warpall` (*env.*) Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1297 \LWR@includecomment{warpall}{all}
```

`warpHTML` (*env.*) For HTML output:

```

1298 \ifbool{warpingHTML}
1299   {\LWR@includecomment{warpHTML}{html}}
1300   {\LWR@excludcomment{warpHTML}{html}}

```

`warpprint` (*env.*) Anything in the `warpprint` environment will be generated for print output only.

```

1301 \ifbool{warpingprint}
1302   {\LWR@includecomment{warpprint}{print}}
1303   {\LWR@excludcomment{warpprint}{print}}

```

If `warpdisable`, turn off both print and HTML output:

```

1304 \ifboolexpr{bool {warpingprint} or bool {warpingHTML}}
1305   {}
1306   {
1307     \LWR@excludcomment{warpHTML}{html}
1308     \LWR@excludcomment{warpprint}{print}
1309     \LWR@excludcomment{warpMathJax}{mathjax}
1310   }

```

`warpMathJax` (*env.*) Only if `MATHJAX` is being used along with HTML.

```

1311 \begin{warpprint}
1312 \LWR@excludcomment{warpMathJax}{mathjax}
1313 \end{warpprint}
1314
1315 \begin{warpHTML}
1316 \ifbool{mathjax}
1317   {\LWR@includecomment{warpMathJax}{mathjax}}
1318   {\LWR@excludcomment{warpMathJax}{mathjax}}
1319 \end{warpHTML}

```

`warpsvg` (*env.*) Only if `svg` math is being used along with HTML, or in print mode.

```

1320 \begin{warpprint}
1321 \LWR@includecomment{warpsvg}{mathsvg}

```

```

1322 \end{warpprint}
1323
1324 \begin{warpHTML}
1325 \ifbool{mathjax}
1326   {\LWR@excludecomment{warpsvg}{mathsvg}}
1327   {\LWR@includecomment{warpsvg}{mathsvg}}
1328 \end{warpHTML}

```

`LWRcreatelwarpmk` (*enu*) Optionally generate a local copy of *lwarpmk*. Default to no.

```

1329 \ifbool{LWR@creatinglwarpmk}
1330   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1331   {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

## 30 Required packages

These packages are automatically loaded by `lwarp` when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1332 `\begin{warpHTML}`

`fontspec` (*Pkg*) Load `fontspec` if necessary:

```

1333 \ifxetexorluatex
1334 \IfPackageLoadedTF{fontspec}{}{
1335   \usepackage[no-math]{fontspec}
1336 }

```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```

1337 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1338 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1339 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1340 \else

```

**pdf<sub>l</sub>atex only:** Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

`microtype` (*Pkg*)

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1341 \RequirePackage{microtype}
1342
1343 \microtypesetup{
1344   protrusion=false,
1345   expansion=false,
1346   tracking=false,
1347   kerning=false,
1348   spacing=false}
1349 % \begin{macrocode}
1350 %

```

```

1351% Disable ligatures for typewriter fonts.
1352% The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1353% Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1354% are now allowed.
1355% \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1356% ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1357% \begin{macrocode}
1358 \DisableLigatures{encoding = *,family = tt*}

1359 \fi

1360 \end{warpHTML}

```

`geometry (Pkg)` Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a `scriptsize` font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1361 `\begin{warpHTML}`

If `geometry` has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```

1362 \IfPackageLoadedTF{geometry}
1363 {}{
1364   \RequirePackage[
1365     reset,
1366     paperwidth=\paperwidth,
1367     paperheight=\paperheight,
1368     textwidth=\textwidth,
1369     textheight=\textheight,
1370     left=\oddsidemargin,
1371     top=\topmargin,
1372     marginparsep=\marginparsep,
1373     marginparwidth=\marginparwidth,
1374   ]{geometry}
1375 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1376 \LetLtxMacro\LWR@origgeometry\geometry
1377 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1378 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1379 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1380 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```

`LWR@allowanothergeometry` `geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If *(bool)* before `lwarp`, it will have already been loaded by now and its page layout has

already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```
1381 \newbool{LWR@allowanothergeometry}
1382 \booltrue{LWR@allowanothergeometry}
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1383 \AtEndPreamble{
```

Whatever `geometry` choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1384 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```
1385 \newlength{LWR@userspaperwidth}
1386 \setlength{LWR@userspaperwidth}{\paperwidth}
1387
1388 \newlength{LWR@userspaperheight}
1389 \setlength{LWR@userspaperheight}{\paperheight}
1390
1391 \newlength{LWR@usersmarginparwidth}
1392 \setlength{LWR@usersmarginparwidth}{\marginparwidth}
1393
1394 \newlength{LWR@userstextwidth}
1395 \setlength{LWR@userstextwidth}{\textwidth}
1396
1397 \newlength{LWR@userstextheight}
1398 \setlength{LWR@userstextwidth}{\textheight}
```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1399 \LWR@origgeometry{
1400   reset,
1401   paperheight=190in,
1402   paperwidth=20in,
1403   left=2in,
1404   right=6in,
1405   top=1in,
1406   bottom=1in,
1407   heightrounded,%
1408 }
```

The `lwarp` page geometry is saved for future restore:

```
1409 \LWR@origsavegeometry{LWR@lwarpgeometry}
```



No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1410 \boolfalse[LWR@allowanothergeometry]%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1411 \setlength{\textheight}{0.8\paperheight}
1412 \setlength{\textwidth}{0.7\paperwidth}
1413
1414 \@twosidefalse
1415 \@mparswitchfalse
1416 }% \AtEndPreamble
1417
1418 \end{warpHTML}
```

**for HTML & PRINT:** 1419 `\begin{warpall}`

`xparse` (*Pkg*)

L<sup>A</sup>T<sub>E</sub>X3 command argument parsing

```
1420 \RequirePackage{xparse}
```

`calc` (*Pkg*)

```
1421 \RequirePackage{calc}
```

```
1422 \end{warpall}
```

**for HTML output:** 1423 `\begin{warpHTML}`

`expl3` (*Pkg*)

L<sup>A</sup>T<sub>E</sub>X3 programming

```
1424 \RequirePackage{expl3}
```

`getttitlestring` (*Pkg*)

Used to emulate `\nameref`.

```
1425 \RequirePackage{getttitlestring}
1426
1427
1428 \end{warpHTML}
```

**for HTML & PRINT:** 1429 `\begin{warpall}`

`filecontents` (*Pkg*)

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the `filecontents` package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original

filecontents package is used, but it is patched to throw away the new optional argument.

```

1430 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1431
1432   \RequirePackage{filecontents}
1433
1434   \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1435
1436   \IfPackageAtLeastTF{filecontents}{2011/10/08}
1437   {

```

For a newer version of the filecontents package, simply discard the optional argument.

```

1438       \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
1439   }
1440   {% patch older package for morewrites

```

For an older version of filecontents, discard the optional argument, and also patch to work with morewrites, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```

1441       \newwrite\fcwrite
1442       \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
1443         \def\chardef##1\write{\let\reserved@e\fcwrite}%
1444         \LWR@orig@filec@ntents%
1445       }
1446   }
1447
1448 }% older kernel
1449 {% newer kernel

```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```

1450 }% newer kernel, filecontents env accepts optional args, do not load package

1451 \end{warpall}

```

**for HTML output:** 1452 \begin{warpHTML}

xifthen (*Pkg*)

```

1453 \RequirePackage{xifthen}

```

verbatim (*Pkg*)

```

1454 \RequirePackage{verbatim}

```

refcount (*Pkg*)

Provides \setcounterref, \setcounterpageref, etc.

```

1455 \RequirePackage{refcount}

```

`newfloat (Pkg)`

```
1456 \RequirePackage{newfloat}
```

```
1457 \end{warpHTML}
```

**for HTML & PRINT:** 1458 \begin{warpall}

`xstring (Pkg)` There was a short-term bug in `xstring` regarding `\IfInteger` which affected `lwarp`'s index generation. The updated version is requested here.



**index**

```
1459 \RequirePackage{xstring}[2019/02/01]
```

`environ (Pkg)` Used to encapsulate math environments for re-use in HTML `<alt>` text.

```
1460 \RequirePackage{environ}
```

```
1461 \end{warpall}
```

**for HTML output:** 1462 \begin{warpHTML}

`printlen (Pkg)` Used to convert lengths for image width/height options.

```
1463 \RequirePackage{printlen}
```

`\LWR@printlength {<length>}`

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1464 \newrobustcmd*\LWR@printlength}[1]{%
```

```
1465   \begingroup%
```

```
1466   \uselengthunit{PT}%
```

```
1467   \renewcommand*\unitspace}{}%
```

```
1468   \ifdimless{#1}{10pt}{%
```

```
1469     \printlength{#1}%
```

```
1470   }{%
```

```
1471     \rndprintlength{#1}%
```

```
1472   }%
```

```
1473   \endgroup%
```

```
1474 }
```

```
1475 \end{warpHTML}
```

## 31 Loading packages

`\RequirePackage` and `\usepackage` are modified to error-check for certain packages, and for HTML they load the `lwarp-` version if it exists.

**for HTML & PRINT:** 1476 \begin{warpall}

Remember the original `\RequirePackage`:

```
1477 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
```

```
1478 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1479 \newcommand*\LWR@requirepackagenames{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1480 \newcommand*\LWR@parsedrequirepackagenames{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```
1481 \newcommand*\LWR@nullifycomment{%
1482   \PackageInfo{lwarp}%
1483   {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1484   \let\comment\relax%
1485   \let\endcomment\relax%
1486 }
```

`\LWR@findword` [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to `\StrBetween`.

```
1487 \newcommand*\LWR@findword[3][,]{%
1488   \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1489 }
```

`\LWR@checkloadnever` {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1490 \LetLtxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename` {*filename*} Checks if this filename should be loaded after `lwarp`, or never at all.

```
1491 \newcommand*\LWR@checkloadfilename[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1492   \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1493   \LWR@checkloadnevers
```

The following should only be loaded before `lwarp`:

```
1494   \LWR@checkloadbefore{ctex}
1495   \LWR@checkloadbefore{fontspec}
1496   \LWR@checkloadbefore{inputenc}
1497   \LWR@checkloadbefore{inputenx}
1498   \LWR@checkloadbefore{nfssect-cfr}
```

```

1499 \LWR@checkloadbefore{fontaxes}
1500 \LWR@checkloadbefore{kotex}
1501 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1502 \LWR@checkloadbefore{luatexja}
1503 \LWR@checkloadbefore{luatexja-fontspec}
1504 \LWR@checkloadbefore{luatexko}
1505 \LWR@checkloadbefore{morewrites}
1506 \LWR@checkloadbefore{newclude}
1507 \LWR@checkloadbefore{newunicodechar}
1508 \LWR@checkloadbefore{pnext}
1509 \LWR@checkloadbefore{xeCJK}
1510 \LWR@checkloadbefore{xetexko}
1511 \LWR@checkloadbefore{zxjatype}
1512 }

```

`\LWR@lookforpackagename` {<*index*>}

If HTML, and if this is an lwarp-supported package name, re-direct it to the lwarp version by renaming it lwarp- followed by the original name.

Looks index deep into the list of package names, \LWR@requirepackagenames, and builds \LWR@parsedrequirepackagenames which is the modified list of names.

```
1513 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1514 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in LWR@strresult and the final name with no blanks goes into LWR@strresulttwo.

```
1515 \StrSubstitute[100]{\LWR@strresult}{ }{ }[\LWR@strresulttwo]%
```

See if the package name was found:

```

1516 \IfStrEq{\LWR@strresulttwo}{}%
1517 {}% no filename
1518 {% yes filename was found

```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```

1519 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1520 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1521 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```

1522 \ifboolexpr{
1523     bool{warpingHTML} and
1524     test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1525 }%
1526 {% lwarp-* file found
1527     \ifvoid{\LWR@parsedrequirepackagenames}{%

```

```

1528         \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1529     }{%
1530         \edef\LWR@parsedrequirepackagenames{%
1531             \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1532         }%
1533     }%
1534 }%
1535 {%

```

Otherwise, use the current package name.

```

1536     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1537         \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1538     }{%
1539         \edef\LWR@parsedrequirepackagenames{%
1540             \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1541         }%
1542     }%
1543 }% no lwarp-* file
1544 }% yes filename
1545 }

```

`\RequirePackage` [*⟨1: options⟩*] {*⟨2: package names⟩*} [*⟨3: version⟩*]

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```

1546 \RenewDocumentCommand{\RequirePackage}{o m o}{%

```

Redirect up to twenty names:<sup>17</sup>

```

1547 \renewcommand*{\LWR@requirepackagenames}{#2}%
1548 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1549 \LWR@lookforpackagename{1}%
1550 \LWR@lookforpackagename{2}%
1551 \LWR@lookforpackagename{3}%
1552 \LWR@lookforpackagename{4}%
1553 \LWR@lookforpackagename{5}%
1554 \LWR@lookforpackagename{6}%
1555 \LWR@lookforpackagename{7}%
1556 \LWR@lookforpackagename{8}%
1557 \LWR@lookforpackagename{9}%
1558 \LWR@lookforpackagename{10}%
1559 \LWR@lookforpackagename{11}%
1560 \LWR@lookforpackagename{12}%
1561 \LWR@lookforpackagename{13}%
1562 \LWR@lookforpackagename{14}%
1563 \LWR@lookforpackagename{15}%
1564 \LWR@lookforpackagename{16}%
1565 \LWR@lookforpackagename{17}%
1566 \LWR@lookforpackagename{18}%
1567 \LWR@lookforpackagename{19}%
1568 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```

1569 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1570   {%
1571     \PackageError{lwarp}{%
1572       You used:\MessageBreak
1573       \protect\usepackage[#1]{#2}\MessageBreak
1574       Braces in the package options will fail with Lwarp.\MessageBreak
1575       Instead, use:\MessageBreak
1576       \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1577       \protect\usepackage{#2}\MessageBreak
1578       near the line number given below.\MessageBreak
1579       Enter 'h' for more info%
1580     }%
1581   {%
1582     See the Lwarp manual troubleshooting index entry for\MessageBreak
1583     ‘package, options with braces’%
1584   }%
1585 }%
1586 {}% no brace

```

\RequirePackage depending on the options and version:

```

1587 \IfValueTF{#1}%
1588 {% options given
1589   \IfValueTF{#3}% version given?
1590     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1591     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1592 }%
1593 {% no options given
1594   \IfValueTF{#3}% version given?
1595     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1596     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1597 }%
1598 }
1599 \LetLtxMacro\usepackage\RequirePackage
1600 \@onlypreamble\RequirePackage
1601 \@onlypreamble\usepackage

1602 \end{warpall}

```

**for HTML output:** 1603 \begin{warpHTML}

\LWR@ProvidesPackagePass {<pkgname>} [<version>]

Uses the original package, including options.

```

1604 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1605   \PackageInfo{lwarp}{%
1606     Using package ‘#1’,\MessageBreak
1607     and adding lwarp modifications, including options,\MessageBreak%
1608   }%
1609   \IfValueTF{#2}%
1610     {\ProvidesPackage{lwarp-#1}[#2]}%
1611     {\ProvidesPackage{lwarp-#1}}%
1612   \DeclareOption*{%
1613     \PassOptionsToPackage{\CurrentOption}{#1}%
1614   }%
1615   \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1616 \IfPackageLoadedTF{#1}{%
1617   \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1618   \IfValueTF{#2}%
1619     {%
1620       \expandafter\LWR@origRequirePackage%
1621       \expandafter[\LWR@tempone]{#1}[#2]%
1622     }%
1623     {%
1624       \expandafter\LWR@origRequirePackage%
1625       \expandafter[\LWR@tempone]{#1}%
1626     }%
1627   }{%
1628     \IfValueTF{#2}%
1629     {\LWR@origRequirePackage{#1}[#2]}%
1630     {\LWR@origRequirePackage{#1}}%
1631   }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1632 \DeclareOption*{%
1633   \ProcessOptions\relax%
1634 }

```

`\LWR@ProvidesPackageDropA`  $\langle name \rangle$   $\langle date or -NoValue-\rangle$

Declares the package. Factored for reuse.

```

1635 \newcommand*\LWR@ProvidesPackageDropA[2]{%
1636   \PackageInfo{lwarp}{%
1637     Replacing package ‘#1’ with the lwarp version,\MessageBreak
1638     and discarding options,%
1639   }%
1640   \IfValueTF{#2}
1641   {\ProvidesPackage{lwarp-#1}[#2]}
1642   {\ProvidesPackage{lwarp-#1}}
1643 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1644 \newcommand*\LWR@ProvidesPackageDropB{%
1645   \ProcessOptions\relax% original LaTeX code
1646   \let\ds@\@empty%      from the original \ProcessOptions
1647   \edef\@curroptions{% lwarp modification to \ProcessOptions
1648     \@processoptions\relax% from the original \ProcessOptions
1649 }

```

`\LWR@ProvidesPackageDrop`  $\langle pkgname \rangle$   $\langle version \rangle$



Ignores the original package and uses lwarp's version instead. Drops/discards all options.

```
1650 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1651 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1652 \DeclareOption*{} 
```

Process the options:

```
1653 \LWR@ProvidesPackageDropB
1654 }
```

```
1655 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1656 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1657 \newwrite\LWR@quickfile%
```

```
1658 \end{warpall}
```

**for HTML output:** 1659 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1660 \newwrite\LWR@lateximagesfile
```

```
1661 \end{warpHTML}
```

## 33 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. lwarp creates <filename>\_html\_inc.tex whose contents are:
 

```
\input <filename>.tex
```
2. <filename>\_html\_inc.tex is then \included instead of <filename>.tex.
3. <filename>\_html\_inc.aux is automatically generated and used by L<sup>A</sup>T<sub>E</sub>X.

for HTML output: 1662 \begin{warpHTML}

\@include {<filename>} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```

1663 \def\@include#1 {%
1664 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1665 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1666 \immediate\closeout\LWR@quickfile% lwarp
1667 \LWR@maybe@orignewpage% changed from clearpage
1668 \if@filesw
1669   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1670 \fi
1671 \@tempwattrue
1672 \if@partsw
1673   \@tempwafalse
1674   \edef\reserved@b{#1}%
1675   \@for\reserved@a:=\@partlist\do
1676   {\ifx\reserved@a\reserved@b\@tempwattrue\fi}%
1677 \fi
1678 \if@tempswa
1679   \let\@auxout\@partaux
1680   \if@filesw
1681     \immediate\openout\@partaux #1_html_inc.aux % changed
1682     \immediate\write\@partaux{\relax}%
1683   \fi
1684   \@input@{#1_html_inc.tex}% changed
1685   \LWR@maybe@orignewpage% changed from clearpage
1686   \@writeckpt{#1}%
1687   \if@filesw
1688     \immediate\closeout\@partaux
1689   \fi
1690 \else
1691   \deadcycles\z@
1692   \@nameuse{cp@#1}%
1693 \fi
1694 \let\@auxout\@mainaux%
1695 }

1696 \end{warpHTML}

```

## 34 Copying a file

for HTML output: 1697 \begin{warpHTML}

\LWR@copyfile {<source filename>} {<destination filename>}

Used to copy the .toc file to .sidetoc to re-print the TOC in the sideroc navigation pane.

```

1698 \newwrite\LWR@copyoutfile % open the file to write to
1699 \newread\LWR@copyinfile % open the file to read from
1700
1701 \newcommand*\LWR@copyfile}[2]{%
1702   \LWR@traceinfo{LWR@copyfile: copying #1 to #2}

```

```

1703
1704 \immediate\openout\LWR@copyoutfile=#2
1705 \openin\LWR@copyinfile=#1
1706 \beginingroup\endlinechar=-1
1707 \makeatletter
1708
1709 \LWR@traceinfo{LWR@copyfile: about to loop}
1710
1711 \loop\unless\ifeof\LWR@copyinfile
1712     \LWR@traceinfo{LWR@copyfile: one line}
1713     \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1714 % \LWR@fileline\par % print the content into the pdf
1715 % print the content:
1716     \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1717 \repeat
1718 \immediate\closeout\LWR@copyoutfile
1719 \LWR@traceinfo{LWR@copyfile: done}
1720 \endgroup
1721 }

1722 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracinglwarp
```

**for HTML & PRINT:** 1723 \begin{warpall}

`LWR@tracinglwarp` (*bool*) True if tracing is turned on.

```
1724 \newbool{LWR@tracinglwarp}
```

`\tracinglwarp` Turns on the debug tracing messages.

```
1725 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

`\LWR@traceinfo` `{\text}` If tracing is turned on, writes the text to the `.log` file.

```

1726 \newcommand{\LWR@traceinfo}[1]{%
1727 \ifbool{LWR@tracinglwarp}%
1728 {%
1729     \typeout{*** lwarp: #1}%
1730 }%
1731 {}%
1732 }

```

`HTMLDebugComments` (*bool*) Add comments in HTML about closing `<div>`s, sections, etc.

Default: `false`

```
1733 \newbool{HTMLDebugComments}
1734 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1735 \AfterEndPreamble{
1736 \LWR@traceinfo{AfterEndPreamble}
1737 }
1738
1739 \AtBeginDocument{
1740 \LWR@traceinfo{AtBeginDocument}
1741 }

1742 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and may also be of some use for package authors to adapt their packages for `lwarp`. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by `LATEX` and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using.

**For a preexisting environment:** The process is similar. Note the use of `\LWR@formattdenv` instead of `\LWR@formatted`.

```

\begin{warpHTML}
\newenvironment{LWR@HTML@name}{...}{..}

\LWR@formattedenv{name}
\end{warpHTML}

```

**For a new macro or environment:** The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```

\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment, using `\formattedenv`.

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.
- Since the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

```

\LWR@expandableformatted
\LWR@expandableformattedenv

```



Misplaced `\omit` error

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

Print or disabled versions:

**for HTML & PRINT:** 1743 `\begin{warpall}`

```
1744 \newcommand*\LWR@formatted}[1]{}
1745 \newcommand*\LWR@expandableformatted}[1]{}
1746 \newcommand*\LWR@formattedenv}[1]{}
1747 \newcommand*\LWR@expandableformattedenv}[1]{}

1748 \end{warpall}
```

**for HTML output:** HTML versions:

```
1749 \begin{warpHTML}
```

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1750 \newcommand*\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname`  $\langle name \rangle$

```
1751 \newcommand*\LWR@formatted@checkname}[1]{%
1752   \ifcsundef{#1}{%
1753     \ifcsundef{LWR@print@#1}{%
1754       \PackageError{lwarp}
1755         {%
1756           \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1757           must be defined before using \protect\LWR@formatted, etc%
1758         }
1759       {Perhaps #1 is misspelled.}
1760     }{\relax}%
1761   }{\relax}%
1762   \ifcsundef{LWR@HTML@#1}{%
1763     \PackageError{lwarp}
1764     {%
1765       \protect\LWR@HTML@#1 must be defined
1766       before using \protect\LWR@formatted, etc%
1767     }
1768     {Perhaps #1 is misspelled.}
1769   }{\relax}%
1770 }
```

`\LWR@formatted@checkendname`  $\langle name \rangle$

```
1771 \newcommand*\LWR@formatted@checkendname}[1]{%
1772   \ifcsundef{end#1}{%
1773     \ifcsundef{endLWR@print@#1}{%
1774       \PackageError{lwarp}
1775       {%
1776         \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
```

```

1777         must be defined before using \protect\LWR@formatted, etc%
1778     }
1779     {Perhaps #1 is misspelled.}
1780 }{\relax}%
1781 }{\relax}%
1782 \ifcsundef{endLWR@HTML@#1}{%
1783     \PackageError{lwarp}
1784     {%
1785         \protect\endLWR@HTML@#1 must be defined
1786         before using \protect\LWR@formatted, etc%
1787     }
1788     {Perhaps #1 is misspelled.}
1789 }{\relax}%
1790 }

```

`\LWR@formatted` {<*macroname*>} No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1791 \renewcommand*{\LWR@formatted}[1]{%
1792     \LWR@formatted@checkname{#1}%
1793     \ifcsundef{LWR@print@#1}{%
1794         \csNewCommandCopy{LWR@print@#1}{#1}%
1795     }{}%
1796     \ifcsundef{#1}{%
1797         \expandafter\newrobustcmd\csname #1\endcsname{%
1798             \@nameuse{LWR@\LWR@formatting @#1}%
1799         }%
1800     }{}%
1801     \expandafter\renewrobustcmd\csname #1\endcsname{%
1802         \@nameuse{LWR@\LWR@formatting @#1}%
1803     }%
1804     }%
1805 }

```

`\LWR@expandableformatted` {<*macroname*>} No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1806 \renewcommand*{\LWR@expandableformatted}[1]{%
1807     \LWR@formatted@checkname{#1}%
1808     \ifcsundef{LWR@print@#1}{%
1809         \csNewCommandCopy{LWR@print@#1}{#1}%
1810     }{}%
1811     \ifcsundef{#1}{%
1812         \expandafter\newcommand\csname #1\endcsname{%
1813             \@nameuse{LWR@\LWR@formatting @#1}%
1814         }%
1815     }{}%
1816     \expandafter\renewcommand\csname #1\endcsname{%
1817         \@nameuse{LWR@\LWR@formatting @#1}%
1818     }%
1819     }%
1820 }

```

`\LWR@formattedenv` {<*environmentname*>}

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1821 \renewcommand*\LWR@formattedenv}[1]{%
1822   \LWR@formatted@checkname{#1}%
1823   \LWR@formatted@checkendname{#1}%
1824   \ifcsundef{LWR@print@#1}{%
1825     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1826   }{%
1827   \DeclareDocumentEnvironment{#1}{}%
1828   {%
1829     \@nameuse{LWR@\LWR@formatting @#1}%
1830   }%
1831   {%
1832     \@nameuse{endLWR@\LWR@formatting @#1}%
1833   }%
1834 }

```

`\LWR@expandableformattedenv {<environmentname>}`

An expandable version of `LWR@formattedenv`.

```

1835 \renewcommand*\LWR@expandableformattedenv}[1]{%
1836   \LWR@formatted@checkname{#1}%
1837   \LWR@formatted@checkendname{#1}%
1838   \ifcsundef{LWR@print@#1}{%
1839     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1840   }{%
1841   \DeclareExpandableDocumentEnvironment{#1}{}%
1842   {%
1843     \@nameuse{LWR@\LWR@formatting @#1}%
1844   }%
1845   {%
1846     \@nameuse{endLWR@\LWR@formatting @#1}%
1847   }%
1848 }

1849 \end{warpHTML}

```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1850 `\begin{warpall}`

### 37.1 User-level controls

`FormatEPUB` (*bool*) Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.  
**Default:** `false`



```
1851 \newbool{FormatEpub}
1852 \boolfalse{FormatEpub}
```

`FormatWP` (*bool*) Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

Default: `false`

```
1853 \newbool{FormatWP}
1854 \boolfalse{FormatWP}
```

`WPMarkFloats` (*bool*) Adds

Default: `false`

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1855 \newbool{WPMarkFloats}
1856 \boolfalse{WPMarkFloats}
```

`WPMarkMinipages` (*bool*) Adds

Default: `false`

```
=== begin minipage ===
. . .
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1857 \newbool{WPMarkMinipages}
1858 \boolfalse{WPMarkMinipages}
```

`WPMarkTOC` (*bool*) While formatting for word processors, adds

Default: `true`

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual toc is printed instead.*

```
1859 \newbool{WPMarkTOC}
1860 \booltrue{WPMarkTOC}
```

`WPMarkLOFT` (*bool*) While formatting for word processors, adds

Default: `false`

```
=== list of figures === and/or
=== list of tables ===
```

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

```
1861 \newbool{WPMarkLOFT}
1862 \boolfalse{WPMarkLOFT}
```

**WPMarkMath** (*bool*) While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.  
**Default:** false

```
1863 \newbool{WPMarkMath}
1864 \boolfalse{WPMarkMath}
```

**WPTitleHeading** (*bool*) While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.  
**Default:** false

See table 11 on page 185.

```
1865 \newbool{WPTitleHeading}
1866 \boolfalse{WPTitleHeading}
```

```
1867 \end{warppall}
```

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1868 \begin{warppHTML}

```
1869 \AtBeginDocument{
1870 \ifbool{FormatWP}{
1871 \@ifundefined{chapter}{
1872 \ifbool{WPTitleHeading}{% part and section starting at h2
1873 \renewcommand*\LWR@tagtitle}{h1}
1874 \renewcommand*\LWR@tagtitleend}{/h1}
1875 \renewcommand*\LWR@tagpart}{h2}
1876 \renewcommand*\LWR@tagpartend}{/h2}
1877 \renewcommand*\LWR@tagsection}{h3}
1878 \renewcommand*\LWR@tagsectionend}{/h3}
1879 \renewcommand*\LWR@tagsubsection}{h4}
1880 \renewcommand*\LWR@tagsubsectionend}{/h4}
1881 \renewcommand*\LWR@tagsubsubsection}{h5}
1882 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1883 \renewcommand*\LWR@tagparagraph}{h6}
1884 \renewcommand*\LWR@tagparagraphend}{/h6}
1885 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1886 \renewcommand*\LWR@tagsubparagraphend}{/span}
1887 }% WPTitleHeading
1888 }% not WPTitleHeading, part and section starting at h1
```

```

1889 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1890 \renewcommand*\LWR@tagtitleend}{/div}
1891 \renewcommand*\LWR@tagpart}{h1}
1892 \renewcommand*\LWR@tagpartend}{/h1}
1893 \renewcommand*\LWR@tagsection}{h2}
1894 \renewcommand*\LWR@tagsectionend}{/h2}
1895 \renewcommand*\LWR@tagsubsection}{h3}
1896 \renewcommand*\LWR@tagsubsectionend}{/h3}
1897 \renewcommand*\LWR@tagsubsubsection}{h4}
1898 \renewcommand*\LWR@tagsubsubsectionend}{/h4}
1899 \renewcommand*\LWR@tagparagraph}{h5}
1900 \renewcommand*\LWR@tagparagraphend}{/h5}
1901 \renewcommand*\LWR@tagsubparagraph}{h6}
1902 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1903 }% not WPTitleHeading
1904 }% chapter undefined
1905 {% chapter defined
1906 \ifbool{WPTitleHeading}{}
1907 {% not WPTitleHeading, part and chapter starting at h1
1908 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1909 \renewcommand*\LWR@tagtitleend}{/div}
1910 \renewcommand*\LWR@tagpart}{h1}
1911 \renewcommand*\LWR@tagpartend}{/h1}
1912 \renewcommand*\LWR@tagchapter}{h2}
1913 \renewcommand*\LWR@tagchapterend}{/h2}
1914 \renewcommand*\LWR@tagsection}{h3}
1915 \renewcommand*\LWR@tagsectionend}{/h3}
1916 \renewcommand*\LWR@tagsubsection}{h4}
1917 \renewcommand*\LWR@tagsubsectionend}{/h4}
1918 \renewcommand*\LWR@tagsubsubsection}{h5}
1919 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1920 \renewcommand*\LWR@tagparagraph}{h6}
1921 \renewcommand*\LWR@tagparagraphend}{/h6}
1922 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1923 \renewcommand*\LWR@tagsubparagraphend}{/span}
1924 }% not WPTitleHeading
1925 }% chapter defined
1926 }{}% FormatWP
1927 }% AtBeginDocument

1928 \end{warpHTML}

```

## 38 Remembering original formatting macros

**for HTML output:** 1929 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `lateximage` environment and inside a `tabbing` environment. Also nullify unused commands.

Some packages redefine `\#`, which is used to generate HTML, so the original must be remembered here.

```
1930 \chardef\LWR@origpound='\#
```

```

1931 \let\LWR@origcomma\,
1932 \let\LWR@origtilde~
1933 \let\LWR@origfil\hfil
1934 \let\LWR@orighss\hss
1935 \let\LWR@origllap\llap
1936 \let\LWR@origrlap\rlap
1937 \let\LWR@origfilneg\hfilneg
1938 \let\LWR@origspace\hspace
1939
1940 \let\LWR@origrule\rule
1941
1942 \let\LWR@origmedskip\medskip
1943 \let\LWR@origbigskip\bigskip

```

`libertinus-otf` has too much kerning for `\textquotedbl`, causing an extra space.

```

1944 \LetLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1945 \LetLtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
1946
1947 \AtEndPreamble{
1948 \IfPackageLoadedTF{libertinus-otf}{
1949   \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1950   \LetLtxMacro\textquotedbl\LWR@orig@textquotedbl
1951 }{ }
1952 }

1953 \LetLtxMacro\LWR@origttfamily\ttfamily
1954
1955 \LetLtxMacro\LWR@origem\em
1956
1957 \LetLtxMacro\LWR@orignormalfont\normalfont
1958
1959 \let\LWR@origonecolumn\onecolumn
1960
1961 \let\LWR@origsp\sp
1962 \let\LWR@origsb\sb
1963
1964 \LetLtxMacro\LWR@origunderline\underline

1965 \let\LWR@orignewpage\newpage
1966
1967 \let\LWR@origpagestyle\pagestyle
1968 \let\LWR@origthispagestyle\thispagestyle
1969 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1970
1971 \let\LWR@orignewline\newline
1972
1973 \AtBeginDocument{% in case packages change definition
1974 \let\LWR@orig@trivlist\@trivlist
1975 \let\LWR@origtrivlist\trivlist
1976 \let\LWR@origendtrivlist\endtrivlist
1977 \LetLtxMacro\LWR@origitem\item
1978 \LetLtxMacro\LWR@origitemize\itemize
1979 \LetLtxMacro\LWR@endorigitemize\enditemize
1980 \LetLtxMacro\LWR@origenumerate\enumerate
1981 \LetLtxMacro\LWR@endorigenumerate\endenumerate
1982 \LetLtxMacro\LWR@origdescription\description
1983 \LetLtxMacro\LWR@endorigdescription\enddescription
1984 \let\LWR@orig@mklab\@mklab

```

```

1985 \let\LWR@origmakelabel\makelabel
1986 \let\LWR@orig@donoparitem\@donoparitem
1987 \LetLtxMacro\LWR@orig@item\@item
1988 \let\LWR@orig@nbitem\@nbitem
1989 }
1990
1991 \let\LWR@origpar\par
1992
1993 \LetLtxMacro\LWR@origfootnote\footnote
1994 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1995
1996
1997 \AtBeginDocument{% in case packages change definition
1998 \LetLtxMacro\LWR@orig\hline\hline%
1999 \LetLtxMacro\LWR@orig\cline\cline%
2000 }

2001 \end{warpHTML}

```

### 39 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as `\`` and `\v` instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 2002 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
2003 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
2004 \LetLtxMacro\LWR@orig\t
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```

2005 \ifPDFTeX% pdf\latex or dvi\latex
2006 \LetLtxMacro\LWR@origgraveaccent\`
2007 \LetLtxMacro\LWR@origacuteaccent\'
2008 \LetLtxMacro\LWR@origcircumflexaccent\^
2009 \LetLtxMacro\LWR@origtildeaccent\~
2010 \LetLtxMacro\LWR@origmacronaccent\=
2011 \LetLtxMacro\LWR@origbreve\u
2012 \LetLtxMacro\LWR@origdotaccent\.
2013 \LetLtxMacro\LWR@origdiaeresisaccent\"
2014 \LetLtxMacro\LWR@origdoubleacuteaccent\H
2015 \LetLtxMacro\LWR@origcaronaccent\v
2016 \LetLtxMacro\LWR@origdotbelowaccent\d
2017 \LetLtxMacro\LWR@origcedillaaccent\c
2018 \LetLtxMacro\LWR@origmacronbelowaccent\b

```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```

2019 \renewcommand*{\`}[1]{#1\HTMLUnicode{0300}}
2020 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
2021 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
2022 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
2023 \renewcommand*{\=} [1]{#1\HTMLUnicode{0304}}
2024 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
2025 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
2026 \renewcommand*{\"}[1]{#1\HTMLUnicode{0308}}
2027 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
2028 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
2029 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
2030 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
2031 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
2032 \fi

```

For all engines, a Unicode diacritical tie is used:

```

2033 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
2034 \renewcommand*{\t}[1]{\LWR@t#1}

```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a lateximage is begun.

```

2035 \ifPDFTeX% pdfLatex or dvi latex
2036 \newcommand*{\LWR@restoreorigaccents}{%
2037   \LetLtxMacro\`\LWR@origgraveaccent%
2038   \LetLtxMacro\'\LWR@origacuteaccent%
2039   \LetLtxMacro\^\LWR@origcircumflexaccent%
2040   \LetLtxMacro\~\LWR@origtildeaccent%
2041   \LetLtxMacro\=\LWR@origmacronaccent%
2042   \LetLtxMacro\u\LWR@origbreve%
2043   \LetLtxMacro\.\LWR@origdotaccent%
2044   \LetLtxMacro\\"\LWR@origdiaeresisaccent%
2045   \LetLtxMacro\H\LWR@origdoubleacuteaccent%
2046   \LetLtxMacro\v\LWR@origcaronaccent%
2047   \LetLtxMacro\t\LWR@origtie%
2048   \LetLtxMacro\d\LWR@origdotbelowaccent%
2049   \LetLtxMacro\c\LWR@origcedillaaccent%
2050   \LetLtxMacro\b\LWR@origmacronbelowaccent%
2051 }%
2052 \else% XeLaTeX, LuaLaTeX:
2053 \newcommand*{\LWR@restoreorigaccents}{%
2054   \LetLtxMacro\t\LWR@origtie%
2055 }%
2056 \fi%
2057 }% AtBeginDocument

2058 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a pstool image. pstool uses an additional compile for each image using the original document's preamble, which includes lwarp, so the lwarp configuration files are turned off if -pstool is part of the \jobname.

Default to no configuration files:

```
2059 \LWR@excludecomment{LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not -pstool:

```
for PRINT output: 2060 \begin{warpprint}
2061 \fullexpandarg%
2062 \IfSubStr*{\jobname}{-pstool}
2063   {
2064     \PackageInfo{lwarp}{%
2065       Jobname with -pstool is found.\MessageBreak
2066       Not generating lwarp configuration files,%
2067     }
2068   }
2069   {
2070     \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2071     \LWR@includecomment{LWRwriteconf}{writeconf}
2072   }
2073 \end{warpprint}
```

### 40.2 <project>\_html.tex

\*\_html.tex (*file*) Used to allow an HTML version of the document to exist alongside the print version.

```
Config file: 2074 \begin{LWRwriteconf}
2075 \immediate\openout\LWR@quickfile=\jobname_html.tex
2076 \immediate\write\LWR@quickfile{%
2077 \detokenize{\PassOptionsToPackage}%
2078 {warpHTML,BaseJobname=\jobname}{lwarp}%
2079 }
2080 \immediate\write\LWR@quickfile{%
2081 \detokenize{\input}\string{\jobname.tex\string }%
2082 }
2083 \immediate\closeout\LWR@quickfile
2084 \end{LWRwriteconf}
```

### 40.3 lwarpmk configuration files

```
Config file: 2085 \begin{LWRwriteconf}
```

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

2086 `\newcommand*{\LWR@lwarpcnfversion}{2}`% also in *lwarpmk.lua*

### 40.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```
2087 \ifshellescape
2088   \def\LWR@shellescapecmd{--shell-escape }
2089 \else
2090   \def\LWR@shellescapecmd{}
2091 \fi
```

`\LWR@compilecmd` `{<engine>}` `{<suffix>}`

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf<sub>l</sub>atex*, etc. Suffix is empty or `_html`

```
2092 \newcommand*{\LWR@compilecmd}[2]{%
2093   #1 \LWR@shellescapecmd \jobname#2%
2094 }
```

`\LWR@addcompilecmd` `{<cmd>}` `{<suffix>}`

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
2095 \newcommand*{\LWR@addcompilecmd}[2]{%
2096   \LWRopseq
2097   #1 \jobname#2%
2098 }
```

`\LWR@unknownengine` Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2099 \newcommand*{\LWR@unknownengine}{%
2100   \PackageError{l warp}%
2101     {Unknown LaTeX engine}%
2102     {%
2103       Lwarp only knows about pdflatex, DVI latex,
2104       xelatex, lualatex, and uplatex.%
2105     }%
2106 }
```

`\LWR@latexmkvar` `{<varname>}` `{<value>}`

Adds a *latexmk* variable assignment.

```
2107 \newcommand*{\LWR@latexmkvar}[2]{%
2108   -e
```



```

2109 \LWRopquote%
2110 \LWRdollar #1=q/#2/%
2111 \LWRopquote
2112 }

```

`\LWR@latexmkcmd` {*latexmk options*}

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```

2113 \newcommand*\LWR@latexmkcmd[1]{%
2114   latexmk \space \LWR@shellescapecmd \space #1 \space
2115   -recorder \space
2116   \LWR@latexmkvar{makeindex}\LWR@LatexmkIndexCmd}%
2117 }

```

`\LWR@latexmkdvipdfm` {*dvipdfm or dvipdfmx*}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```

2118 \newcommand*\LWR@latexmkdvipdfm[1]{%
2119   -pdfdvi \space
2120   \LWR@latexmkvar{dvipdf}{%
2121     #1
2122     \@percentchar O
2123     -o \@percentchar D
2124     \@percentchar S%
2125   }
2126 }

```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with *ujarticle* or related classes.

```

2127 \newcommand*\LWR@compileuplatex{%
2128   \def\LWR@tempprintlatexcmd{%
2129     \LWR@compilecmd{uplatex}{%
2130       \LWR@addcompilecmd{dvipdfmx}{%
2131         }
2132     \def\LWR@tempHTMLlatexcmd{%
2133       \LWR@compilecmd{uplatex}{_html}
2134       \LWR@addcompilecmd{dvipdfmx}{_html}
2135     }
2136 }

```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source `\LWR@HTMLLatexCmd` to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

---

```

[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]

```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvi-pdf=q/dvipdfmx %0 -o %D %S/'
  -recorder
  -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2137 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2138   \ifpdf
```

For *latexmk* with *pdflatex*:

```
2139     \ifPDFTeX
2140     \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2141     \else
```

For *latexmk* with *lualatex*:

```
2142     \ifLuaTeX
2143     \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2144     \else
2145     \LWR@unknownengine
2146     \fi
2147     \fi
2148     \else% \ifpdf
```

For *latexmk* with *xelatex* or *DVI latex*:

```
2149     \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2150     \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2151     \else% \ifXeTeX
```

For *latexmk* with *DVI latex*:

```
2152     \ifbool{LWR@dvi-pdfm}{
2153     \def\LWR@latexcmd{%
2154     \LWR@latexmkcmd{%
2155     \LWR@latexmkdvi-pdfm{dvi-pdfm}%
2156     }
2157     }
2158     }{
2159     \ifbool{LWR@dvi-pdfmx}{
2160     \def\LWR@latexcmd{%
2161     \LWR@latexmkcmd{%
2162     \LWR@latexmkdvi-pdfm{dvi-pdfmx}%
2163     }
2164     }
2165     }{
2166     \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2167     }
```

```

2168     }
2169     \fi
2170     \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2171     \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2172     \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2173 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2174 {% not latexmk
2175     \ifpdf

```

For *pdflatex* or *lualatex*:

```

2176     \ifPDFTeX

```

For *pdflatex*:

```

2177     \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2178     \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2179     \else
2180     \ifLuaTeX

```

For *lualatex*:

```

2181     \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2182     \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2183     \else
2184     \LWR@unknownengine
2185     \fi
2186     \fi
2187     \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2188     \ifXeTeX

```

For *xelatex*:

```

2189     \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2190     \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2191     \else

```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```

2192     \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfm*:

```

2193     \def\LWR@tempprintlatexcmd{%
2194     \LWR@compilecmd{latex}{}
2195     \LWR@addcompilecmd{dvipdfm}{}
2196     }
2197     \def\LWR@tempHTMLlatexcmd{%

```

```

2198             \LWR@compilecmd{latex}{_html}
2199             \LWR@addcompilecmd{dvi-pdf}{_html}
2200         }
2201     }{
2202         \ifbool{LWR@dvi-pdf}{

```

For DVI *latex* with *dvi-pdf*:

```

2203             \def\LWR@tempprintlatexcmd{%
2204                 \LWR@compilecmd{latex}{}
2205                 \LWR@addcompilecmd{dvi-pdf}{}
2206             }
2207             \def\LWR@tempHTMLlatexcmd{%
2208                 \LWR@compilecmd{latex}{_html}
2209                 \LWR@addcompilecmd{dvi-pdf}{_html}
2210             }
2211         }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

2212             \def\LWR@tempprintlatexcmd{%
2213                 \LWR@compilecmd{latex}{}
2214                 \LWR@addcompilecmd{dvips}{}
2215                 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{}.ps
2216             }
2217             \def\LWR@tempHTMLlatexcmd{%
2218                 \LWR@compilecmd{latex}{_html}
2219                 \LWR@addcompilecmd{dvips}{_html}
2220                 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{_html}.ps
2221             }
2222         }
2223     }
2224     \fi% \ifXeTeX
2225     \fi% \ifpdf
2226 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up $\LaTeX$  and *dvi-pdf*:

```

2227 \IfClassLoadedTF{ujarticle}{\LWR@compileuplatex}{}
2228 \IfClassLoadedTF{ujbook}{\LWR@compileuplatex}{}
2229 \IfClassLoadedTF{ujreport}{\LWR@compileuplatex}{}
2230 \IfClassLoadedTF{utarticle}{\LWR@compileuplatex}{}
2231 \IfClassLoadedTF{utbook}{\LWR@compileuplatex}{}
2232 \IfClassLoadedTF{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2233 \ifdefempty{\LWR@PrintLatexCmd}{
2234     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2235 }{ }
2236 \ifdefempty{\LWR@HTMLLatexCmd}{
2237     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2238 }{ }

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2239 \newcommand{\LWR@writeconf}[1]{
2240 \ifcsdef{\LWR@quickfile}{\newwrite{\LWR@quickfile}}
2241 \immediate\openout\LWR@quickfile=#1
2242 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}
2243 \ifbool{usingOSWindows}{
2244   \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2245 }{
2246   \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2247 }
2248 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2249 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2250 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
2251 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2252 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2253 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
2254 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2255 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2256 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2257 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2258 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2259 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2260 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2261 \immediate\closeout\LWR@quickfile
2262 }
2263
2264 \end{\LWR@writeconf}

```

### 40.3.2 `lwarpmk.conf`

`lwarpmk.conf` (*file*) `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for `xelatex` or `lualatex`, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility `lwarpmk`.

**Config file:** 2265 \begin{\LWR@writeconf}  
2266  
2267 \AtBeginDocument{\LWR@writeconf{\lwarpmk.conf}}  
2268  
2269 \end{\LWR@writeconf}

### 40.3.3 `<project>.lwarpmkconf`

`project.lwarpmkconf` (*file*) A project-specific configuration file for `lwarpmk`.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

**Config file:** 2270 \begin{\LWR@writeconf}  
2271  
2272 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}  
2273  
2274 \end{\LWR@writeconf}

## 40.4 lwarp.css

lwarp.css (*file*) This is the base css layer used by lwarp.

This must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 2275 \begin{LWRwriteconf}
2276 \begin{filecontents*}[overwrite]{lwarp.css}
2277 /*
2278 CSS stylesheet for the LaTeX Lwarp package
2279 Copyright 2016-2022 Brian Dunn – BD Tech Concepts LLC
2280 */
2281
2282
2283 /* a fix for older browsers: */
2284 header, section, footer, aside, nav, main,
2285 article, figure { display: block; }
2286
2287
2288 A:link {color:#000080 ; text-decoration: none ; }
2289 A:visited {color:#800000 ; }
2290 A:hover {color:#000080 ; text-decoration: underline ;}
2291 A:active {color:#800000 ; }
2292
2293 a.tocbook {display: inline-block ; margin-left: 0em ;
2294 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2295 a.tocpart {display: inline-block ; margin-left: 0em ;
2296 font-weight: bold ;}
2297 a.tocchapter {display: inline-block ; margin-left: 0em ;
2298 font-weight: bold ;}
2299 a.tocsection {display: inline-block ; margin-left: 1em ;
2300 text-indent: -.5em ; font-weight: bold ; }
2301 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2302 text-indent: -.5em ; }
2303 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2304 text-indent: -.5em ; }
2305 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2306 text-indent: -.5em ; }
2307 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2308 text-indent: -.5em ; }
2309 a.tocfigure {margin-left: 0em}
2310 a.tocsubfigure {margin-left: 2em}
2311 a.tocatable {margin-left: 0em}
2312 a.tocsubtable {margin-left: 2em}
2313 a.toctheorem {margin-left: 0em}
2314 a.toclstlisting {margin-left: 0em}
2315
2316 body {
2317 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2318 "Lucida Bright", Georgia, serif;
2319 background: #FAF7F4 ;
2320 color: black ;
2321 margin:0em ;
2322 padding:0em ;
2323 font-size: 100% ;
2324 line-height: 1.2 ;
2325 }
2326
2327 p {margin: 1.5ex 0em 1.5ex 0em ;}

```

```
2328 table p {margin: .5ex 0em .5ex 0em ;}
2329
2330 /* Holds a section number */
2331 span.sectionnumber { margin-right: 0em }
2332
2333 /* Inserted in front of index lines */
2334 span.indexitem {margin-left: 0em}
2335 span.indexsubitem {margin-left: 2em}
2336 span.indexsubsubitem {margin-left: 4em}
2337 div.indexheading {margin-top: 2ex ; font-weight: bold}
2338
2339 div.hidden, span.hidden { display: none ; }
2340
2341 kbd, span.texttt, p span.texttt {
2342     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2343         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2344         "Courier New", monospace;
2345     font-size: 100% ;
2346 }
2347
2348 pre { padding: 3pt ; }
2349
2350 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2351
2352 span.textit, div.textit, table td.tditshape { font-style: italic; }
2353
2354 table td.tdbfit { font-weight: bold ; font-style:italic }
2355
2356 span.textnormal, div.textnormal {
2357     font-weight: normal;
2358     font-style: normal;
2359     font-variant: normal;
2360     font-variant-numeric: normal ;
2361     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2362         "Lucida Bright", Georgia, serif;
2363 }
2364
2365 span.textmd, div.textmd { font-weight: normal; }
2366
2367 span.textup, div.textup {
2368     font-style: normal;
2369     font-variant: normal;
2370     font-variant-numeric: normal ;
2371 }
2372
2373 span.textsc, div.textsc {
2374     font-variant: small-caps;
2375     font-variant-numeric: oldstyle-nums ;
2376 }
2377
2378 span.textulc, div.textulc {
2379     font-variant: normal ;
2380     font-variant-numeric: normal ;
2381 }
2382
2383 span.textsl, div.textsl { font-style: oblique; }
2384
2385 span.textrm, div.textrm {
2386     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2387     "Lucida Bright", Georgia, serif;
```

```
2388 }
2389
2390 span.textsf, div.textsf {
2391     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2392     Geneva, Verdana, sans-serif ;
2393 }
2394
2395 /* nfssext-cfr lining figures */
2396 span.textln, div.textln {
2397     font-variant-numeric: lining-nums ;
2398 }
2399
2400 /* nfssext-cfr proportional figures */
2401 span.textp, div.textp {
2402     font-variant-numeric: proportional-nums ;
2403 }
2404
2405 /* nfssext-cfr tabular figures */
2406 span.textt, div.textt {
2407     font-variant-numeric: tabular-nums ;
2408 }
2409
2410 /* nfssext-cfr font weights */
2411 span.textdb, div.textdb {
2412     font-weight: 500 ;
2413 }
2414
2415 span.textsb, div.textsb {
2416     font-weight: 600 ;
2417 }
2418
2419 span.texteb, div.texteb {
2420     font-weight: 800 ;
2421 }
2422
2423 span.textub, div.textub {
2424     font-weight: 900 ;
2425 }
2426
2427 span.textlg, div.textlg {
2428     font-weight: 300 ;
2429 }
2430
2431 span.textel, div.textel {
2432     font-weight: 200 ;
2433 }
2434
2435 span.textul, div.textul {
2436     font-weight: 100 ;
2437 }
2438
2439
2440
2441 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2442
2443 span.underline {
2444     text-decoration: underline ;
2445     text-decoration-skip: auto ;
2446 }
2447
```



```
2448 span.overline {
2449     text-decoration: overline ;
2450     text-decoration-skip: auto ;
2451 }
2452
2453 div.hrule { border-top: 1px solid silver }
2454
2455
2456 /* for vertical text: */
2457 div.verticalrl { writing-mode: vertical-rl }
2458 div.horizontalTB { writing-mode: horizontal-tb }
2459
2460
2461 /* for diagbox */
2462 div.diagboxtitleN { border-bottom: 1px solid gray }
2463 div.diagboxtitleS { border-top: 1px solid gray }
2464
2465 div.diagboxE {
2466     padding-left: 2em ;
2467     text-align: right ;
2468 }
2469
2470 div.diagboxW {
2471     padding-right: 2em ;
2472     text-align: left ;
2473 }
2474
2475
2476
2477 /* For realscripts */
2478 .supsubscript {
2479     display: inline-block;
2480     text-align:left ;
2481 }
2482
2483 .supsubscript sup,
2484 .supsubscript sub {
2485     position: relative;
2486     display: block;
2487     font-size: .7em;
2488     line-height: 1;
2489 }
2490
2491 .supsubscript sup {
2492     top: .3em;
2493 }
2494
2495 .supsubscript sub {
2496     top: .3em;
2497 }
2498
2499 div.attribution p {
2500     text-align: right ;
2501     font-size: 80%
2502 }
2503
2504 span.poemtitle {
2505     font-size: 120% ; font-weight: bold;
2506 }
2507
```

```
2508 pre.tabbing {
2509     font-family: "Linux Libertine Mono O", "Lucida Console",
2510         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2511         "Liberation Mono", "FreeMono", "Andale Mono",
2512         "Nimbus Mono L", "Courier New", monospace;
2513 }
2514
2515 blockquote {
2516     display: block ;
2517     margin-left: 2em ;
2518     margin-right: 2em ;
2519 }
2520
2521 /* quotchap is for the quotchap package */
2522 div.quotchap {
2523     display: block ;
2524     font-style: oblique ;
2525     overflow-x: auto ;
2526     margin-left: 2em ;
2527     margin-right: 2em ;
2528 }
2529
2530 blockquote p, div.quotchap p {
2531     line-height: 1.5;
2532     text-align: left ;
2533     font-size: .85em ;
2534 }
2535
2536 /* qauthor is for the quotchap package */
2537 div.qauthor {
2538     display: block ;
2539     text-align: right ;
2540     margin-left: auto ;
2541     margin-right: 2em ;
2542     font-size: 80% ;
2543     font-variant: small-caps;
2544 }
2545
2546 div.qauthor p {
2547     text-align: right ;
2548 }
2549
2550 div.epigraph, div.dictum {
2551     line-height: 1.2;
2552     text-align: left ;
2553     padding: 3ex 1em 0ex 1em ;
2554 /*     margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2555     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2556 /*     margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2557     font-size: .85em ;
2558     max-width: 27em ;
2559 }
2560
2561 div.epigraphsource, div.dictumauthor {
2562     text-align:right ;
2563     margin-left:auto ;
2564 /*     max-width: 50% ; */
2565     border-top: 1px solid #A0A0A0 ;
2566     padding-bottom: 3ex ;
2567     line-height: 1.2;
```

```
2568 }
2569
2570 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2571 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2572 div.dictumauthor { font-style:italic }
2573
2574
2575 /* copyrightbox package: */
2576 div.copyrightbox { margin: .5ex .5em }
2577 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2578 div.copyrightboxnote {text-align: left ; font-size: 60%}
2579
2580
2581 /* lettrine package: */
2582 span.lettrine { font-size: 4ex ; float: left ; }
2583 span.lettrinetext { font-variant: small-caps ; }
2584
2585 /* ulem, soul, umoline packages: */
2586 span.underline {
2587     text-decoration: underline ;
2588     text-decoration-skip: auto ;
2589 }
2590
2591 span.uuline {
2592     text-decoration: underline ;
2593     text-decoration-skip: auto ;
2594     text-decoration-style: double ;
2595 }
2596
2597 span.uwave {
2598     text-decoration: underline ;
2599     text-decoration-skip: auto ;
2600     text-decoration-style: wavy ;
2601 }
2602
2603 span.sout {
2604     text-decoration: line-through ;
2605 }
2606
2607 span.oline {
2608     text-decoration: overline ;
2609     text-decoration-skip: auto ;
2610 }
2611
2612 span.xout {
2613     text-decoration: line-through ;
2614 }
2615
2616 span.dashuline {
2617     text-decoration: underline ;
2618     text-decoration-skip: auto ;
2619     text-decoration-style: dashed ;
2620 }
2621
2622 span.dotuline {
2623     text-decoration: underline ;
2624     text-decoration-skip: auto ;
2625     text-decoration-style: dotted ;
2626 }
2627
```

```
2628 span.letterspacing { letter-spacing: .2ex ; }
2629
2630 span.capsspacing {
2631     font-variant: small-caps ;
2632     letter-spacing: .1ex ;
2633 }
2634
2635 span.highlight { background: #F8E800 ; }
2636
2637
2638 /* keystroke package: */
2639 span.keystroke {
2640     border-style: outset ;
2641     padding: 0pt .5em 0pt .5em ;
2642 }
2643
2644
2645 html body {
2646     margin: 0 ;
2647     line-height: 1.2;
2648 }
2649
2650
2651 body div {
2652     margin: 0ex;
2653 }
2654
2655
2656 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2657 {
2658     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2659         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2660         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2661         "Times New Roman", serif;
2662     font-style: normal ;
2663     font-weight: bold ;
2664     text-align: left ;
2665 }
2666
2667 h1 { /* title of the entire website, used on each page */
2668     text-align: center ;
2669     font-size: 2.5em ;
2670     padding: .4ex 0em 0ex 0em ;
2671 }
2672
2673 div.book {
2674     text-align: center ;
2675     font-size: 2.325em ;
2676     padding: .4ex 0em 0ex 0em ;
2677 }
2678
2679 h2 { font-size: 2.25em }
2680 h3 { font-size: 2em }
2681 h4 { font-size: 1.75em }
2682 h5 { font-size: 1.5em }
2683 h6 { font-size: 1.25em }
2684 span.paragraph {font-size: 1em ; font-variant: normal ;
2685     margin-right: 1em ; }
2686 span.subparagraph {font-size: 1em ; font-variant: normal ;
2687     margin-right: 1em ; }
```

```
2688
2689 div.minisec {
2690     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2691         Geneva, Verdana, sans-serif ;
2692     font-style: normal ;
2693     font-weight: bold ;
2694     text-align: left ;
2695 }
2696
2697 h1 {
2698     margin: 0ex 0em 0ex 0em ;
2699     line-height: 1.3;
2700     text-align: center ;
2701 }
2702
2703 h2 {
2704     margin: 1ex 0em 1ex 0em ;
2705     line-height: 1.3;
2706     text-align: center ;
2707 }
2708
2709 h3 {
2710     margin: 3ex 0em 1ex 0em ;
2711     line-height: 1.3;
2712 }
2713
2714 h4 {
2715     margin: 3ex 0em 1ex 0em ;
2716     line-height: 1.3;
2717 }
2718
2719 h5 {
2720     margin: 3ex 0em 1ex 0em ;
2721     line-height: 1.3;
2722 }
2723
2724 h6 {
2725     margin: 3ex 0em 1ex 0em ;
2726     line-height: 1.3;
2727 }
2728
2729
2730 div.titlepage {
2731     text-align: center ;
2732 }
2733
2734 .footnotes {
2735     text-align: left ;
2736     font-size: .85em ;
2737     margin: 3ex 2em 0ex 2em ;
2738     border-top: 1px solid silver ;
2739 }
2740
2741 .marginpar, .marginparblock {
2742     max-width: 50%;
2743     float: right ;
2744     clear: both ;
2745     text-align: left ;
2746     margin: 1ex 0.5em 1ex 1em ;
2747     padding: 1ex 0.5em 1ex 0.5em ;
```

```
2748     font-size: 85% ;
2749     border-top: 1px solid silver ;
2750     border-bottom: 1px solid silver ;
2751     overflow-x: auto ;
2752 }
2753
2754 .marginpar br { margin-bottom: 2ex ; }
2755
2756 div.marginblock, div.marginparblock {
2757     max-width:50%;
2758     min-width: 10em; /* room for caption */
2759     float:right;
2760     text-align:left;
2761     margin: 1ex 0.5em 1ex 1em ;
2762     padding: 1ex 0.5em 1ex 0.5em ;
2763     overflow-x: auto;
2764 }
2765
2766 div.marginblock div.minipage,
2767 div.marginparblock div.minipage {
2768     display: inline-block ;
2769     margin: 0pt auto 0pt auto ;
2770 }
2771
2772 div.marginblock div.minipage p ,
2773 div.marginparblock div.minipage p
2774     { font-size: 85%}
2775
2776 div.marginblock br ,
2777 div.marginparblock br
2778     { margin-bottom: 2ex ; }
2779
2780 main.bodycontainer {
2781     float: left ;
2782     width: 80% ;
2783 }
2784
2785 div.bodywithoutsidetoc main.bodycontainer {
2786     float: none ;
2787     width: 100% ;
2788 }
2789
2790 section.textbody div.footnotes{
2791     margin: 1ex 2em 2ex 2em ;
2792     border-bottom: 2px solid silver ;
2793 }
2794
2795 .footnoteheader {
2796     border-top: 2px solid silver ;
2797     margin-top: 3ex ;
2798     padding-top: 1ex ;
2799     font-weight: bold ;
2800 }
2801
2802 .mpfootnotes {
2803     text-align: left ;
2804     font-size: .85em ;
2805     margin-left: 1em ;
2806     border-top: 1px solid silver ;
2807 }
```

```
2808
2809 /* Remove footnote top border in the title page. */
2810 div.titlepage div.mpfootnotes {
2811     border-top: none ;
2812 }
2813
2814
2815
2816 ul, ol {
2817     margin: 1ex 1em 1ex 0em;
2818     line-height: 1.2;
2819 }
2820
2821 body dir, body menu {
2822     margin: 3ex 1em 3ex 0em;
2823     line-height: 1.2;
2824 }
2825
2826 li { margin: 0ex 0em 1ex 0em; }
2827
2828 li.p { display: inline ; }
2829
2830 html {
2831     margin: 0;
2832     padding: 0;
2833 }
2834
2835 .programlisting {
2836     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2837         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2838         "Courier New", monospace;
2839     margin: 1ex 0ex 1ex 0ex ;
2840     padding: .5ex 0pt .5ex 0pt ;
2841     overflow-x: auto;
2842 }
2843
2844 section.textbody>pre.programlisting {
2845 border-top: 1px solid silver ;
2846 border-bottom: 1px solid silver ;
2847 }
2848
2849
2850 div.displaymath {
2851     text-align: center ;
2852 }
2853
2854 div.displaymathnumbered {
2855     text-align: right ;
2856     margin-left: 5% ;
2857     margin-right: 5% ;
2858     min-width: 2.5in ;
2859 }
2860
2861 @media all and (min-width: 400px) {
2862     div.displaymathnumbered {
2863         margin-left: 10% ;
2864         margin-right: 10% ;
2865     }
2866 }
2867
```

```
2868 @media all and (min-width: 800px) {
2869     div.displaymathnumbered {
2870         margin-right: 20% ;
2871     }
2872 }
2873
2874 @media all and (min-width: 1200px) {
2875     div.displaymathnumbered {
2876         margin-right: 30% ;
2877     }
2878 }
2879
2880
2881 .inlineprogramlisting {
2882     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2883         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2884         "Courier New", monospace;
2885     overflow-x: auto;
2886 }
2887
2888 span.listinglabel {
2889     display: inline-block ;
2890     font-size: 70% ;
2891     width: 4em ;
2892     text-align: right ;
2893     margin-right: 2em ;
2894 }
2895
2896 div.abstract {
2897     margin: 2em 5% 2em 5% ;
2898     padding: 1ex 1em 1ex 1em ;
2899 /* font-weight: bold ; */
2900     font-size: 90% ;
2901     text-align: left ;
2902 }
2903
2904 div.abstract dl {line-height:1.5;}
2905 div.abstract dt {color:#304070;}
2906
2907 div.abstracttitle{
2908     font-family: "URW Classico", Optima, "Linux Biolinum O",
2909         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2910         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2911     font-weight:bold;
2912     font-size:1.25em;
2913     text-align: center ;
2914 }
2915
2916 span.abstracruntintitle{
2917     font-family: "URW Classico", Optima, "Linux Biolinum O",
2918         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2919         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2920     font-weight:bold;
2921 }
2922
2923
2924 .verbatim {
2925     overflow-x: auto ;
2926 }
2927
```



```
2928 .alltt {
2929     overflow-x: auto ;
2930 }
2931
2932
2933 .bverbatim {
2934     margin: 1ex 0pt 1ex 0pt ;
2935     padding: .5ex 0pt .5ex 0pt ;
2936     overflow-x: auto ;
2937 }
2938
2939 .lverbatim {
2940     margin: 1ex 0pt 1ex 0pt ;
2941     padding: .5ex 0pt .5ex 0pt ;
2942     overflow-x: auto ;
2943 }
2944
2945 .fancyvrb {
2946     font-size:.85em ;
2947     margin: 3ex 0pt 3ex 0pt
2948 }
2949
2950 .fancyvrblabel {
2951     font-size: .85em ;
2952     text-align: center ;
2953     font-weight: bold ;
2954     margin-top: 1ex ;
2955     margin-bottom: 1ex ;
2956 }
2957
2958
2959 .verse {
2960     font-family: "Linux Libertine Mono O", "Lucida Console",
2961                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2962                 "Liberation Mono", "FreeMono", "Andale Mono",
2963                 "Nimbus Mono L", "Courier New", monospace;
2964     margin-left: 1em ;
2965 }
2966
2967
2968 div.singlespace { line-height: 1.2 ; }
2969 div.onehalfspace { line-height: 1.5 ; }
2970 div.doublespace { line-height: 2 ; }
2971
2972
2973 /* Word processor format output: */
2974 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2975 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2976 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2977
2978
2979
2980
2981 /* Minipage environments, vertically aligned to top, center, bottom: */
2982 .minipage, .fminipage, .fcolorminipage {
2983     /* display: inline-block ; */
2984     /* Mini pages which follow each other will be tiled. */
2985     text-align:left;
2986     margin: .25em .25em .25em .25em;
2987     padding: .25em .25em .25em .25em;
```

```
2988     display: inline-flex;
2989     flex-direction: column ;
2990     overflow: auto;
2991 }
2992
2993 .inlineminipage {
2994     display: inline-block ;
2995     text-align: left
2996 }
2997
2998 /* Paragraphs in the flexbox did not collapse their margins. */
2999 /* Have not yet researched this. */
3000 .minipage p {margin: .75ex 0em .75ex 0em ;}
3001
3002 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
3003 .fcolorbox .minipage, .fcolorboxBlock .minipage
3004     {border: none ; background: none;}
3005
3006 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
3007
3008 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
3009 .fminipage, .fcolorminipage
3010     {display: inline-block}
3011
3012 .shadowbox, .shabox {
3013     border: 1px solid black;
3014     box-shadow: 3px 3px 3px #808080 ;
3015     border-radius: 0px ;
3016     padding: .4ex .3em .4ex .3em ;
3017     margin: 0pt .3ex 0pt .3ex ;
3018     display: inline-block ;
3019 }
3020
3021 .doublebox {
3022     border: 3px double black;
3023     border-radius: 0px ;
3024     padding: .4ex .3em .4ex .3em ;
3025     margin: 0pt .3ex 0pt .3ex ;
3026     display: inline-block ;
3027 }
3028
3029 .ovalbox, .Ovalbox {
3030     border: 1px solid black;
3031     border-radius: 1ex ;
3032     padding: .4ex .3em .4ex .3em ;
3033     margin: 0pt .3ex 0pt .3ex ;
3034     display: inline-block ;
3035 }
3036
3037 .Ovalbox { border-width: 2px ; }
3038
3039 .framebox {
3040     border: 1px solid black;
3041     border-radius: 0px ;
3042     padding: .3ex .2em 0ex .2em ;
3043     margin: 0pt .1ex 0pt .1ex ;
3044     display: inline-block ;
3045 }
3046
3047
```

```
3048 /* mdframed, tcolorbox, shadebox packages */
3049 .mdframed, .tcolorbox, .shadebox {
3050     padding: 0ex ;
3051     margin: 2ex 0em 2ex 0em ;
3052     border: 1px solid black ;
3053 }
3054
3055 .tcolorbox {
3056     border-radius: 10pt ;
3057     margin: 2ex 1em 2ex 1em ;
3058 }
3059
3060 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3061
3062 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3063
3064 .mdframedtitle, .tcolorboxtitle {
3065     padding: .5ex 0pt 0pt 0pt ;
3066     border-radius: 10pt 10pt 0pt 0pt ;
3067     display: block ;
3068     margin-bottom: 1ex ;
3069     border-bottom: 1px solid silver ;
3070 }
3071
3072 .tcolorboxsubtitle .tcolorbox {
3073     margin: 2ex 0em 2ex 0em ;
3074     border-radius: 0pt ;
3075 }
3076
3077 .mdframedsubtitle {
3078     display: block ;
3079 }
3080
3081 .mdframedsubsubtitle {
3082     display: block ;
3083 }
3084
3085 .mdtheorem {
3086     padding: 0ex .5em 0ex .5em ;
3087     margin: 3ex 5% 3ex 5% ;
3088 }
3089
3090
3091 /* framed package */
3092 .framed, pre.boxedverbatim, fcolorbox {
3093     margin: 3ex 0em 3ex 0em ;
3094     border: 1px solid black;
3095     border-radius: 0px ;
3096     padding: .3ex 1em 0ex 1em ;
3097     display: block ;
3098 }
3099
3100 .shaded {
3101     margin: 3ex 0em 3ex 0em ;
3102     padding: .3ex 1em .3ex 1em ;
3103     display: block ;
3104 }
3105
3106 .snugframed {
3107     margin: 3ex 0em 3ex 0em ;
```

```
3108 border: 1px solid black;
3109     border-radius: 0px ;
3110 display: block ;
3111 }
3112
3113 .framedleftbar {
3114     margin: 3ex 0em 3ex 0em ;
3115     border-left: 3pt solid black;
3116     border-radius: 0px ;
3117     padding: .3ex .2em .3ex 1em ;
3118 display: block ;
3119 }
3120
3121 .framedtitle {
3122     margin: 0em ;
3123     padding: 0em ;
3124     font-size: 130%
3125 }
3126
3127 .framedtitle p { padding: .3em }
3128
3129
3130 /* For the niceframe package: */
3131
3132 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3133     padding: 1ex ;
3134     margin: 2ex auto ;
3135     border-radius: 2ex ;
3136 }
3137
3138 div.niceframe {
3139     border: 6px groove black ;
3140 }
3141
3142 div.curlyframe {
3143     border-left: 3px dotted black ;
3144     border-right: 3px dotted black ;
3145     border-radius: 6ex ;
3146 }
3147
3148 div.artdecoframe {
3149     border-left: 10px double black ;
3150     border-right: 10px double black ;
3151     border-radius: 6ex ;
3152 }
3153
3154 div.generalframe {
3155     border: 6px groove black ;
3156 }
3157
3158
3159 /* For beamerarticle: */
3160 div.beamerframe {
3161     margin: 3ex 1em 3ex 1em ;
3162     border: 1px solid gray;
3163     border-radius: 0px ;
3164     padding: .3ex 1em 0ex 1em ;
3165     display: block ;
3166 }
3167
```

```
3168
3169 dl {
3170   margin: 1ex 2em 1ex 0em;
3171   line-height: 1.3;
3172 }
3173
3174 dl dt {
3175   display: block ;
3176   float:left ;
3177   font-weight: bold;
3178   padding-right: 1em ;
3179 }
3180
3181 dl dd { display: block ; }
3182
3183 dl dd:after { content: "" ; display: block ; clear: both }
3184
3185 dl dd p { margin-top: 0em; }
3186
3187 dd ul, dd ol, dd dl {
3188   clear: both ;
3189 /*   padding-top: 1ex ; */
3190 }
3191
3192
3193 nav {
3194   font-family: "URW Classico", Optima, "Linux Biolinum O",
3195               "DejaVu Sans", "Bitstream Vera Sans",
3196               Geneva, Verdana, sans-serif ;
3197   margin-bottom: 4ex ;
3198 }
3199
3200 nav p {
3201   line-height: 1.2 ;
3202   margin-top:.5ex ;
3203   margin-bottom:.5ex;
3204   font-size: .9em ;
3205 }
3206
3207
3208
3209 img, img.hyperimage, img.borderimage {
3210   max-width: 600px;
3211   border: 1px solid silver;
3212   box-shadow: 3px 3px 3px #808080 ;
3213   padding: .5% ;
3214   margin: .5% ;
3215   background: none ;
3216 }
3217
3218 img.inlineimage{
3219   padding: 0px ;
3220   box-shadow: none ;
3221   border: none ;
3222   background: none ;
3223   margin: 0px ;
3224   display: inline-block ;
3225   border-radius: 0px ;
3226 }
3227
```

```
3228 img.logoimage{
3229     max-width: 300px ;
3230     box-shadow: 3px 3px 3px #808080 ;
3231     border: 1px solid black ;
3232     background:none ;
3233     padding:0 ;
3234     margin:.5ex ;
3235     border-radius: 10px ;
3236 }
3237
3238
3239 .section {
3240 /*
3241     To have each section float relative to each other:
3242 */
3243 /*
3244     display: block ;
3245     float: left ;
3246     position: relative ;
3247     background: white ;
3248     border: 1px solid silver ;
3249     padding: .5em ;
3250 */
3251     margin: 0ex .5em 0ex .5em ;
3252     padding: 0 ;
3253 }
3254
3255
3256 figure {
3257     margin: 5ex auto 5ex auto ;
3258     padding: 1ex 1em 1ex 1em ;
3259     overflow-x: auto ;
3260 }
3261
3262
3263 /* To automatically center images in figures: */
3264 /*
3265 figure img.inlineimage {
3266     margin: 0ex auto 0ex auto ;
3267     display: block ;
3268 }
3269 */
3270
3271 /* To automatically center minipages in figures: */
3272 /*
3273 figure div.minipage, figure div.minipage div.minipage {
3274     margin: 1ex auto 1ex auto ;
3275     display: block ;
3276 }
3277 */
3278
3279 figure figure { margin: 0pt }
3280
3281 figure div.minipage p { font-size: 85% ; }
3282
3283 figure.subfigure, figure.subtable {
3284     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3285 }
3286
3287 div.figurecaption .minipage { margin:0 ; padding: 0 }
```

```
3288
3289 /* for subcaptions: */
3290 figure div.minipage div.figurecaption {
3291     max-width: 100% ; /* fallback if min() does not work */
3292     max-width: min(30em,100%)
3293 }
3294
3295 div.minipage figure { border: none ; box-shadow: none ; }
3296 div.minipage figure.table { margin: 0ex }
3297 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3298
3299 div.floatrow { text-align: center; }
3300
3301 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3302
3303 div.floatfoot { font-size: .85em ;
3304     border-top: 1px solid silver ; line-height: 1.2 ; }
3305
3306 /* Center if only one line, "start" align if more than one line: */
3307 div.figurecaption , .lstlistingtitle {
3308     font-size: .85em ;
3309     font-weight: bold ;
3310     text-align: start ;
3311     margin: 1ex auto;
3312     width: max-content;
3313     max-width: 100%;
3314 }
3315
3316 /* A marginblock is small, so always center and don't mess with the width. */
3317 div.marginblock div.figurecaption {
3318     width: 100% ;
3319     text-align: center ;
3320 }
3321
3322 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3323     border-bottom: none ; background: none ;
3324 }
3325
3326 div.nonfloatcaption {
3327     margin: 1ex auto 1ex auto ;
3328     font-size: .85em ;
3329     text-align: center ;
3330     font-weight: bold ;
3331 }
3332
3333 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3334 figure div.floatrow div.minipage div.figurecaption {
3335     border: none ;
3336     background: none ;
3337 }
3338
3339
3340 /* For packages such as float, rotfloat, and algorithm2e: */
3341
3342 figure.boxed, figure.boxruled {
3343     border: 1px solid black ;
3344 }
3345
3346 figure.ruled {
3347     border-top: 1px solid black ;
```

```
3348 border-bottom: 1px solid black ;
3349 border-left: 0px ;
3350 border-right: 0px ;
3351 border-radius: 0px ;
3352 background: none ;
3353 box-shadow: none ;
3354 }
3355
3356 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3357 border-top: 1px solid silver ;
3358 border-bottom: 1px solid silver ;
3359 }
3360
3361
3362 table {
3363 margin: 1ex auto 1ex auto ;
3364 border-collapse: separate ;
3365 border-spacing: 0px ;
3366 line-height: 1.3 ;
3367 }
3368
3369 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3370 margin-bottom: 0ex ; } /* for \hline */
3371
3372 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3373 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3374
3375 td {padding: .5ex .5em .5ex .5em ;}
3376
3377 table td.tdl { text-align: left ; vertical-align: middle ; }
3378 table td.tdc { text-align: center ; vertical-align: middle ; }
3379 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3380 table td.tdbang { text-align: center ; vertical-align: middle ; }
3381 table td.tdr { text-align: right ; vertical-align: middle ; }
3382 table td.tdp { text-align: left ; vertical-align: bottom ; }
3383 table td.tdm { text-align: left ; vertical-align: middle ; }
3384 table td.tdb { text-align: left ; vertical-align: top ; }
3385
3386 table td.tvertbarl { border-left: 1px solid black }
3387 table td.tvertbarldouble { border-left: 4px double black }
3388 table td.tvertbarr { border-right: 1px solid black }
3389 table td.tvertbarrdouble { border-right: 4px double black }
3390
3391 table td.tvertbarldash { border-left: 1px dashed black }
3392 table td.tvertbarldoubledash { border-left: 2px dashed black }
3393 table td.tvertbarrdash { border-right: 1px dashed black }
3394 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3395
3396 table td.tdcenter { text-align: center}
3397 table td.tdleft { text-align: left}
3398 table td.tdright { text-align: right}
3399
3400
3401 /* for cmidrules: */
3402 table td.tdrule {
3403 border-top: 1px solid #A0A0A0 ;
3404 }
3405
3406 table td.tdrulel {
3407 border-top-left-radius:.5em ;
```



```
3408     border-top: 1px solid #A0A0A0 ;
3409 }
3410
3411 table td.tdruler {
3412     border-top-right-radius:.5em ;
3413     border-top: 1px solid #A0A0A0 ;
3414 }
3415
3416 table td.tdrulelr {
3417     border-top-left-radius:.5em ;
3418     border-top-right-radius:.5em ;
3419     border-top: 1px solid #A0A0A0 ;
3420 }
3421
3422
3423 /* Margins of paragraphs inside table cells: */
3424 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3425     padding-bottom: 1ex ; margin: 0ex ; }
3426 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3427     padding-bottom: 1ex ; margin: 0ex ; }
3428 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3429     padding-bottom: 1ex ; margin: 0ex ; }
3430
3431 td.tdp , td.tdprule , td.tdP , td.tdPrule
3432     { padding: 0ex .5em 0ex .5em ; }
3433 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3434     { padding: 0ex .5em 0ex .5em ; }
3435 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3436     { padding: 0ex .5em 0ex .5em ; }
3437
3438
3439 /* table notes: */
3440 .tnotes {
3441     margin: 0ex 5% 1ex 5% ;
3442     padding: 0.5ex 1em 0.5ex 1em;
3443     font-size:.80em;
3444     text-align: left ;
3445 }
3446
3447 .minipage .tnotes {
3448     margin: 0pt ;
3449     padding: 0pt ;
3450 }
3451
3452 .tnotes dl dt p {margin-bottom:0px;}
3453
3454 .tnoteitemheader {margin-right: 1em;}
3455
3456
3457 /* for colortbl and cell color */
3458 div.cellcolor {
3459     width: 100% ;
3460     padding: .5ex .5em .5ex .5em ;
3461     margin: -.5ex -.5em -.5ex -.5em ;
3462 }
3463
3464
3465 /* for lyluatex */
3466 span.lyluateX {
3467     display: inline-block ;
```

```
3468 }
3469
3470 div.lylualatex p span.lateximagesource img {
3471     display: block ;
3472     margin-top: 3ex ;
3473     margin-bottom: 3ex ;
3474 }
3475
3476
3477 /* for bigdelim */
3478 .ldelim, .rdelim { font-size: 200% }
3479
3480
3481 /* center, flushleft, flushright environments */
3482 div.center{text-align:center;}
3483 div.center table {margin-left:auto;margin-right:auto;}
3484 div.flushleft{text-align:left;}
3485 div.flushleft table {margin-left:0em ; margin-right:auto;}
3486 div.flushright{text-align:right;}
3487 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3488
3489
3490 /* Fancybox */
3491 div.Btrivlist table tr td {
3492     padding: .2ex 0em ;
3493 }
3494
3495
3496 /* program listing callouts: */
3497 span.callout {
3498     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3499     Geneva, Verdana, sans-serif ;
3500     border-radius: .5em;
3501     background-color:black;
3502     color:white;
3503     padding:0px .25em 0px .25em;
3504     margin: 0 ;
3505     font-weight: bold;
3506     font-size:.72em ;
3507 }
3508
3509 div.programlisting pre.verbatim span.callout{
3510     font-size: .85em ;
3511 }
3512
3513 span.verbatim {
3514     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3515     "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3516     "Courier New", monospace;
3517 }
3518
3519
3520
3521 div.titlehead
3522 {
3523     text-align: left ;
3524     font-style: normal ;
3525     font-weight: normal ;
3526     font-style: normal ;
3527     font-size: .8em ;
```

```
3528     margin: 1ex 0em 1ex 0em ;
3529 }
3530
3531 div.subject
3532 {
3533     text-align: center ;
3534     font-style: normal ;
3535     font-weight: bold ;
3536     font-style: normal ;
3537     font-size: .8em ;
3538     margin: 1ex 0em 1ex 0em ;
3539 }
3540
3541 div.published
3542 {
3543     text-align: center ;
3544     font-variant: normal ;
3545     font-style: italic ;
3546     font-size: 1em ;
3547     margin: 1ex 0em 1ex 0em ;
3548 }
3549
3550 div.subtitle
3551 {
3552     text-align: center ;
3553     font-variant: normal ;
3554     font-style: italic ;
3555     font-size: 1.25em ;
3556     margin: 1ex 0em 1ex 0em ;
3557 }
3558
3559 div.subtitle p { margin: 1ex ; }
3560
3561 div.author
3562 {
3563     text-align: center ;
3564     font-variant: normal ;
3565     font-style: normal ;
3566     font-size: 1em ;
3567     margin: 1ex 0em 1ex 0em ;
3568 }
3569
3570 div.oneauthor {
3571     display: inline-block ;
3572     margin: 0ex 1em 0ex 1em ;
3573 }
3574
3575 /*
3576 div.author table {
3577     margin: 1ex auto 0ex auto ;
3578     background: none ;
3579 }
3580
3581 div.author table tbody tr td { padding: .25ex ; }
3582 */
3583
3584 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3585
3586 div.titledate {
3587     text-align: center ;
```

```
3588     font-size: .85em ;
3589     font-style: italic;
3590     margin: 1ex 0em 1ex 0em ;
3591 }
3592
3593
3594 nav.topnavigation{
3595     text-align: left ;
3596     padding: 0.5ex 1em 0.5ex 1em ;
3597 /*     margin: 2ex 0em 3ex 0em ; */
3598     margin: 0 ;
3599     border-bottom: 1px solid silver ;
3600     border-top: 1px solid silver ;
3601     clear:both ;
3602 }
3603
3604 nav.botnavigation{
3605     text-align: left ;
3606     padding: 0.5ex 1em 0.5ex 1em ;
3607 /*     margin: 3ex 0em 2ex 0em ; */
3608     margin: 0 ;
3609     border-top: 1px solid silver ;
3610     border-bottom: 1px solid silver ;
3611     clear:both ;
3612 }
3613
3614
3615 header {
3616     line-height: 1.2 ;
3617     font-size: 1em ;
3618     border-bottom: 1px solid silver ;
3619     margin: 0px ;
3620     padding: 2ex 1em 2ex 1em ;
3621     text-align:left ;
3622 }
3623
3624
3625 footer {
3626     font-size: .85em ;
3627     line-height: 1.2 ;
3628     margin-top: 1ex ;
3629     border-top: 1px solid silver ;
3630     padding: 2ex 1em 2ex 1em ;
3631     clear:both ;
3632     text-align:left ;
3633 }
3634
3635
3636 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3637 a.linkhome { font-weight:bold ; font-size: 1em ;}
3638
3639
3640 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3641
3642 img.lateximage{
3643     padding: 0pt ;
3644     margin: 0pt ;
3645     box-shadow: none ;
3646     border: none ;
3647     background: none ;
```

```
3648     max-width: 100% ;
3649     border-radius: 0ex ;
3650     border: none ;
3651 }
3652
3653
3654 div.sidetoccontainer {
3655     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3656         "Lucida Bright", Georgia, serif;
3657     float: left ;
3658     width: 19%; /* room for border-right next to 80% main */
3659     margin: 0pt 0em 3ex 0pt ;
3660     border-right: 1px solid silver;
3661     border-bottom: 1px solid silver;
3662     background: #FAF7F4 ;
3663     font-size: .9em ;
3664     border-radius: 0px 0px 20px 0px ;
3665 }
3666
3667 div.sidetoccontents {
3668     overflow-y: auto ;
3669     width: 100% ;
3670     text-align: left ;
3671 }
3672
3673
3674 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3675     text-indent: 0 ; }
3676
3677 nav.sidetoc p a {color:black ; font-size: .7em ;}
3678
3679 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3680     border-bottom: 1px solid silver ; }
3681
3682 nav.sidetoc a:hover {text-decoration: underline ; }
3683
3684
3685
3686 section.textbody { margin: 0ex 1em 0ex 1em ;}
3687
3688
3689 div.multicolsheading { -webkit-column-span: all;
3690     -moz-column-span: all; column-span: all; }
3691 div.multicols {
3692     -webkit-columns: 3 auto ;
3693     -moz-columns: 3 auto ;
3694     columns: 3 auto ;
3695 }
3696 div.multicols p {margin-top: 0ex}
3697
3698
3699 /* Used for xfrac and nicefrac: */
3700 span.numerator {
3701     font-size: 60% ;
3702     vertical-align: .4em ;
3703 }
3704
3705 span.denominator {
3706     font-size: 60%
3707 }
```

```
3708
3709
3710 /* Used for algorithm2e: */
3711 div.alg2evline{
3712     margin-left: 1em ;
3713     padding-left: 1em ;
3714     border-left: 1px solid black ;
3715     border-radius: 0px 0px 0px 1ex ;
3716 }
3717
3718 div.alg2evsline{
3719     margin-left: 1em ;
3720     padding-left: 1em ;
3721     border-left: 1px solid black ;
3722 }
3723
3724 div.alg2enoline{
3725     margin-left: 1em ;
3726     padding-left: 1em ;
3727 }
3728
3729 span.alg2elinenumber{
3730     margin-right: .5em ;
3731     font-size: 60% ;
3732     color: red ;
3733 }
3734
3735
3736 /* Used for algorithmicx: */
3737 span.floatright { float: right ; }
3738
3739
3740 /* keyfloat and tocdata: */
3741 .floatnotes {
3742     margin: 0ex 5% 0ex 5% ;
3743     padding: 0ex 1em 0ex 1em ;
3744     font-size:.80em ;
3745     text-align: left ;
3746 }
3747
3748 .authorartist{
3749     display:block ;
3750     font-size:.70em ;
3751     font-style: italic;
3752 }
3753
3754 nav .authorartist{ display:inline; }
3755
3756
3757
3758 /* Native LaTeX theorems: */
3759
3760 .theoremcontents {
3761     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3762 }
3763
3764 .theoremlabel {
3765     font-style: normal; font-weight: bold ; margin-right: .5em ;
3766 }
3767
```

```
3768
3769
3770 /* theorem, amsthm, and ntheorem packages */
3771
3772 span.theoremheader,
3773 span.theoremheaderplain,
3774 span.theoremheaderdefinition,
3775 span.theoremheaderbreak,
3776 span.theoremheadermarginbreak,
3777 span.theoremheaderchangebreak,
3778 span.theoremheaderchange,
3779 span.theoremheadermargin
3780 {
3781     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3782 }
3783
3784 span.amsthmnameplain,
3785 span.amsthmnamedefinition,
3786 span.amsthmnumberplain,
3787 span.amsthmnumberdefinition
3788 {
3789     font-style:normal ; font-weight: bold ;
3790 }
3791
3792
3793 span.amsthmnameremark,
3794 span.amsthmnumberremark
3795 {font-style:italic ; font-weight: normal ; }
3796
3797
3798 span.amsthmnoteplain,
3799 span.amsthmnotedefinition
3800 {font-style:normal ;}
3801
3802
3803 span.theoremheaderremark,
3804 span.theoremheaderproof,
3805 span.amsthmproofname
3806 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3807
3808 span.theoremheadersc
3809 {
3810     font-style:normal ;
3811     font-variant: small-caps ;
3812     font-weight: normal ;
3813     margin-right: 1em ;
3814 }
3815
3816 .theoremendmark {float:right}
3817
3818 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3819 div.theorembodybreak, div.theorembodynonumberbreak,
3820 div.theorembodymarginbreak,
3821 div.theorembodychangebreak,
3822 div.theorembodychange,
3823 div.theorembodymargin
3824 {
3825     font-style:italic;
3826     margin-top: 3ex ; margin-bottom: 3ex ;
3827 }
```

```
3828
3829 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3830 div.theorembodyplainupright, nonumberplainuprightsc,
3831 div.amsthmbodydefinition, div.amsthmbodyremark,
3832 div.amsthmproof
3833 {
3834     font-style: normal ;
3835     margin-top: 3ex ; margin-bottom: 3ex ;
3836 }
3837
3838 span.amsthmnoteremark {}
3839
3840
3841 /* thmbox */
3842
3843 .thmbox {
3844     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3845     border: 1px solid gray ;
3846     padding: 1ex ;
3847 }
3848
3849 .thmboxtitle {
3850     font-style: normal; font-weight: bold ; margin-right: .5em ;
3851     border-bottom: 1px solid gray ;
3852 }
3853
3854 span.thmboxproofname, span.thmboxexamplename {
3855     font-weight: bold ;
3856 }
3857
3858 div.thmboxproof, div.thmboxexample {
3859     font-size: 0.85em ;
3860     margin: 2ex ;
3861 }
3862
3863 div.thmboxleftbar {
3864     border-left: 2px solid black ;
3865     padding-left: 1em ;
3866 }
3867
3868
3869
3870 /* For the backnaur package: */
3871 div.backnaur {
3872     display: block ;
3873     margin: 2ex 2em 2ex 2em ;
3874 }
3875
3876 div.backnaur p {
3877     margin: .25ex 0ex .25ex 0ex ;
3878 }
3879
3880 div.backnaurprod {
3881     display: inline-block ;
3882     min-width: 8em ;
3883     text-align:right ;
3884 }
3885
3886 div.backnaurdsc {
3887     display: inline-block ;
```



```
3888 }
3889
3890
3891 /* For the notes package: */
3892 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3893     clear: both ;
3894     margin: 2ex 2em 2ex 2em ;
3895     border: 1px solid silver ;
3896 }
3897
3898 div.notesicon {
3899     float:left ;
3900     display: inline-block ;
3901     background: gold ;
3902     padding: 0ex 1em 0ex 1em ;
3903     margin-right: 1em ;
3904     font-weight: bold ;
3905 }
3906
3907 div.notescontents { font-style: italic }
3908
3909
3910 /* nolbreaks package: */
3911 span.nolbreaks { white-space: nowrap ; }
3912
3913
3914 /*
3915 For CSS LaTeX and related logos:
3916 Based on spacing demonstrated by the metafont package.
3917
3918 The subscripts are shrunk instead of lowered below the baseline,
3919 to avoid browser rendering errors with the line height in lists, etc.
3920 */
3921
3922 .latexlogofont {
3923     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3924         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3925     font-variant: normal ;
3926 }
3927
3928 .latexlogo {
3929     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3930         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3931 }
3932
3933 .latexlogosup {
3934     text-transform: uppercase;
3935     letter-spacing: .03em ;
3936     font-size: 0.7em;
3937     vertical-align: 0.25em;
3938     margin-left: -0.4em;
3939     margin-right: -0.15em;
3940 }
3941
3942 .latexlogosub {
3943     text-transform: uppercase;
3944     /* vertical-align: -0.27ex; */
3945     margin-left: -0.08em;
3946     margin-right: -0.07em;
3947     /* font-size: 1em; */
```

```
3948     font-size: .7em ;
3949 }
3950
3951 .latexlogotwoe {
3952     text-transform: none ;
3953     font-variant-numeric: oldstyle-nums ;
3954 }
3955
3956 .latexlogotwoesub {
3957     font-style:italic ;
3958 /* vertical-align: -0.27ex; */
3959     margin-left: -0.11em;
3960     margin-right: -0.1em;
3961 /* font-size: 1em; */
3962     font-size: .7em ;
3963 }
3964
3965 .xelatexlogo {
3966     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3967                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3968     letter-spacing: .03em ;
3969 }
3970
3971 .xelatexlogosub {
3972 /* vertical-align: -0.27ex; */
3973     margin-left: -0.0667em;
3974     margin-right: -.05em;
3975 /* font-size: 1em; */
3976     font-size: .7em ;
3977     letter-spacing: .03em ;
3978 }
3979
3980 .amslogo {
3981     font-family: "TeXGyreChorus","URW Chancery L",
3982                 "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3983                 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3984                 "Hoefler Text", Times, "Times New Roman", serif ;
3985     font-style: italic ;
3986 }
3987
3988 .lyxlogo {
3989     font-family: "URW Classico", Optima, "Linux Biolinum O",
3990                 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3991                 Verdana, sans-serif ;
3992 }
3993
3994
3995 /* Only display top and bottom navigation if a small screen: */
3996 /* Hide the sidetoc if a small screen: */
3997 nav.topnavigation { display:none; }
3998 nav.botnavigation { display:none; }
3999
4000 /* Only display the sidetoc's webpage title if a small screen */
4001 span.sidetocthetitle { display: none }
4002
4003 @media screen and (max-width: 100em) {
4004     div.multicols {
4005         -webkit-columns: 2 auto ;
4006         -moz-columns: 2 auto ;
4007         columns: 2 auto ;
```

```
4008     }
4009 }
4010
4011 @media screen and (max-width: 50em) {
4012     div.sidetoccontainer {
4013         float: none ;
4014         width: 100% ;
4015         padding: 0 ;
4016         border-radius: 0 ;
4017         border-bottom: 1px solid black ;
4018         border-top: 1px solid black ;
4019         box-shadow: none ;
4020     }
4021     span.sidetocthetitle { display: inline }
4022     nav.topnavigation { display:block }
4023     nav.botnavigation { display:block }
4024     main.bodycontainer { width: 100% }
4025     .marginpar {
4026         max-width: 100%;
4027         float: none;
4028         display:block ;
4029         margin: 1ex 1em 1ex 1em ;
4030     }
4031     div.multicols {
4032         -webkit-columns: 1 auto ;
4033         -moz-columns: 1 auto ;
4034         columns: 1 auto ;
4035     }
4036 }
4037
4038 @media print {
4039     body {
4040         font-family: "Linux Libertine O",
4041             "DejaVu Serif", "Bitstream Vera Serif",
4042             "Liberation Serif", "Nimbus Roman No 9 L",
4043             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4044     }
4045     div.sidetoccontainer { display:none; }
4046     nav.topnavigation { display: none; }
4047     nav.botnavigation { display: none; }
4048     main.bodycontainer { width: 100% }
4049 }
4050
4051 @media handheld {
4052     div.sidetoccontainer { display:none; }
4053     nav.topnavigation { display:block }
4054     nav.botnavigation { display:block }
4055     main.bodycontainer { width: 100% }
4056 }
4057
4058 @media projection {
4059     div.sidetoccontainer { display:none; }
4060     nav.topnavigation { display:block }
4061     nav.botnavigation { display:block }
4062     main.bodycontainer { width: 100% }
4063 }
4064 \end{filecontents*}
4065 % \end{Verbatim}% for syntax highlighting
4066 \end{LWRwriteconf}
```

## 40.5 lwarp\_sagebrush.css

lwarp\_sagebrush.css (*file*) An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 4067 \begin{LWRwriteconf}
4068 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4069 @import url("lwarp.css") ;
4070
4071
4072 A:link {color:#105030 ; text-decoration: none ; }
4073 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4074 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4075 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4076
4077
4078
4079 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4080 {
4081     font-family: "URW Classico", Optima, "Linux Biolinum O",
4082         "Linux Libertine O", "Liberation Serif",
4083         "Nimbus Roman No 9 L", "FreeSerif",
4084         "Hoefler Text", Times, "Times New Roman", serif;
4085     font-variant: small-caps ;
4086     font-weight: normal ;
4087     color: #304070 ;
4088     text-shadow: 2px 2px 3px #808080;
4089 }
4090
4091 h1 { /* title of the entire website, used on each page */
4092     font-variant: small-caps ;
4093     color: #304070 ;
4094     text-shadow: 2px 2px 3px #808080;
4095     background-color: #F7F7F0 ;
4096     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4097 }
4098
4099 h1 {
4100     border-bottom: 1px solid #304070;
4101     /* border-top: 2px solid #304070; */
4102 }
4103
4104 h2 {
4105     border-bottom: 1px solid #304070;
4106     /* border-top: 2px solid #304070; */
4107     background-color: #F7F7F0 ;
4108     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4109 }
4110
4111
4112
4113 div.abstract {
4114     background: #f5f5eb ;
4115     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4116
4117     border: 1px solid silver;
4118     border-radius: 1em ;
4119 }
```

```
4120
4121 div.abstract dl {line-height:1.5;}
4122 div.abstract dt {color:#304070;}
4123
4124 div.abstracttitle{
4125     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4126         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4127         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4128     font-weight:bold;
4129     font-variant: small-caps ;
4130     font-size:1.5em;
4131     border-bottom: 1px solid silver ;
4132     color: #304070 ;
4133     text-align: center ;
4134     text-shadow: 1px 1px 2px #808080;
4135 }
4136
4137 span.abstractrunintitle{
4138     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4139         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4140         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4141     font-weight:bold;
4142 }
4143
4144
4145 div.epigraph, div.dictum {
4146     background: #f5f5eb ;
4147     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4148
4149     border: 1px solid silver ;
4150     border-radius: 1ex ;
4151     box-shadow: 3px 3px 3px #808080 ;
4152 }
4153
4154
4155 .example {
4156     background-color: #f5f5eb ;
4157     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4158
4159 }
4160
4161 div.exampletitle{
4162     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4163         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4164         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4165     font-weight:bold;
4166     font-variant: small-caps ;
4167     border-bottom: 1px solid silver ;
4168     color: #304070 ;
4169     text-align: center ;
4170     text-shadow: 1px 1px 2px #808080;
4171 }
4172
4173
4174 .sidebar {
4175     background-color: #f5f5eb ;
4176     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4177
4178 }
4179
```

```
4180 div.sidebartitle{
4181     font-family: "URW Classico", Optima, "Linux Biolinum O",
4182         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4183         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4184     font-weight:bold;
4185     font-variant: small-caps ;
4186     border-bottom: 1px solid silver ;
4187     color: #304070 ;
4188     text-align: center ;
4189     text-shadow: 1px 1px 2px #808080;
4190 }
4191
4192
4193 .fancyvrblabel {
4194     font-family: "URW Classico", Optima, "Linux Biolinum O",
4195         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4196         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4197     font-weight:bold;
4198     font-variant: small-caps ;
4199     font-size: 1.5em ;
4200     color: #304070 ;
4201     text-align: center ;
4202     text-shadow: 1px 1px 2px #808080;
4203 }
4204
4205 div.minipage {
4206     background-color: #eeeeee7 ;
4207     border: 1px solid silver ;
4208     border-radius: 1ex ;
4209 }
4210
4211 table div.minipage { background: none ; border: none ; }
4212
4213 div.framebox div.minipage {border:none ; background:none}
4214
4215 section.textbody > div.minipage {
4216     box-shadow: 3px 3px 3px #808080 ;
4217 }
4218
4219 div.fboxBlock div.minipage { box-shadow: none ; }
4220
4221 .framed .minipage , .framedleftbar .minipage {
4222     border: none ;
4223     background: none ;
4224     padding: 0ex ;
4225     margin: 0ex ;
4226 }
4227
4228 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4229
4230 div.marginblock div.minipage ,
4231 div.marginparblock div.minipage
4232     { border: none; }
4233
4234 figure , div.marginblock {
4235     background-color: #eeeeee7 ;
4236     border: 1px solid silver ;
4237     border-radius: 1ex ;
4238     box-shadow: 3px 3px 3px #808080 ;
4239 }
```

```
4240
4241 figure figure {
4242     border: 1px solid silver ;
4243     margin: 0em ;
4244     box-shadow: none ;
4245 }
4246
4247 /*
4248 div.figurecaption {
4249     border-top: 1px solid silver ;
4250     border-bottom: 1px solid silver ;
4251     background-color: #e8e8e8 ;
4252 }
4253 */
4254
4255
4256 div.table {
4257     box-shadow: 3px 3px 3px #808080 ;
4258 }
4259
4260 /*
4261 .tnotes {
4262     background: #e8e8e8;
4263     border: 1px solid silver;
4264 }
4265 */
4266
4267
4268 nav.topnavigation{
4269     background-color: #b0b8b0 ;
4270     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4271 }
4272
4273 nav.botnavigation{
4274     background-color: #b0b8b0 ;
4275     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4276 }
4277
4278
4279
4280 header{
4281     background-color: #F7F7F0 ;
4282     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4283 }
4284
4285 footer{
4286     background-color: #F7F7F0 ;
4287     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4288 }
4289
4290
4291
4292 div.sidetoccontainer {
4293     background-color: #F7F7F0 ;
4294     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4295     box-shadow: 3px 3px 3px #808080 ;
4296 }
4297
4298 div.sidetocitle {color: #304070 ; }
4299
```

```

4300 nav.sidetoc a:hover {
4301     color:#006000 ;
4302     text-decoration: none ;
4303     text-shadow:0px 0px 2px #a0a0a0;
4304 }
4305
4306
4307 @media screen and (max-width: 45em) {
4308     div.sidetoccontainer { border-radius: 0 ; }
4309 }
4310
4311
4312 \end{filecontents*}
4313 % \end{Verbatim}% for syntax highlighting
4314 \end{LWRwriteconf}

```

## 40.6 lwarp\_formal.css

lwarp\_formal.css (*file*) An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4315 \begin{LWRwriteconf}
4316 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4317 @import url("lwarp.css") ;
4318
4319
4320
4321 A:link {color:#802020 ; text-decoration:none; }
4322 A:visited {color:#802020 ; text-shadow:none ;}
4323 A:hover {color:#400000 ; text-shadow:none ;}
4324 A:active {color:#C00000 ; text-shadow:none ;}
4325
4326
4327 body {
4328     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4329         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4330         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4331         "Times New Roman", serif;
4332     background: #fffcf5;
4333 }
4334
4335 span.textrm {
4336     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4337         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4338         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4339         "Times New Roman", serif;
4340 }
4341
4342 span.textsf {
4343     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4344         Geneva, Verdana, sans-serif ;
4345 }
4346
4347
4348
4349 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph

```



```
4350 {
4351     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4352         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4353         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4354         "Times New Roman", serif;
4355     color: #800000 ;
4356     text-shadow: none ;
4357 }
4358
4359 h1, h2 {
4360     background-color: #fffcf5 ;
4361     background-image: none ;
4362     border-bottom: 1px solid #808080;
4363 /*     border-top: 2px solid #808080; */
4364 }
4365
4366 div.abstracttitle {
4367     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4368         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4369         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4370         "Times New Roman", serif;
4371     color: black ;
4372     text-shadow: none ;
4373 }
4374
4375 span.abstracruntintitle {
4376     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4377         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4378         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4379         "Times New Roman", serif;
4380     color: black ;
4381     text-shadow: none ;
4382 }
4383
4384 div.abstract { font-size: 100% }
4385
4386 .sidebar {
4387     background: #fffcf5;
4388     background-image: none ;
4389     margin: 2em 5% 2em 5%;
4390     padding: 0.5em 1em;
4391     border: none ;
4392     border-top : 1px solid silver;
4393     border-bottom : 1px solid silver;
4394     font-size: 90% ;
4395 }
4396
4397 div.sidebartitle{
4398     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4399         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4400         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4401         "Times New Roman", serif;
4402     color: #800000 ;
4403     text-shadow: none ;
4404     border: none ;
4405 }
4406
4407 .example {
4408     background: #fffcf5;
4409     background-image: none ;
```

```
4410 margin: 2em 5% 2em 5%;
4411 padding: 0.5em 1em;
4412 border: none ;
4413 border-top : 1px solid silver;
4414 border-bottom : 1px solid silver;
4415 }
4416
4417 div.exampletitle{
4418     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4419         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4420         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4421         "Times New Roman", serif;
4422     color: #800000 ;
4423     text-shadow: none ;
4424     border: none ;
4425 }
4426
4427 div.fancyvrblabel{
4428     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4429         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4430         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4431         "Times New Roman", serif;
4432     color: #800000 ;
4433     text-shadow: none ;
4434     border: none ;
4435 }
4436
4437
4438
4439 figure {
4440     margin: 5ex 5% 5ex 5% ;
4441     padding: 1ex 1em 1ex 1em ;
4442     background-color: #fffcf5 ;
4443     overflow-x: auto ;
4444     border: none ;
4445 /*     border-top: 1px solid silver; */
4446 /*     border-bottom: 1px solid silver; */
4447 }
4448
4449
4450 div.figurecaption , .lstlisting {
4451     border: none ;
4452 /*     border-top: 1px solid silver ; */
4453 /*     border-bottom: 1px solid silver ; */
4454     background-color: #fffcf5 ;
4455 }
4456
4457 .tnotes {
4458     background: #fffcf5 ;
4459     border-top: 1px solid silver ;
4460     border-bottom: 1px solid silver ;
4461 }
4462
4463 .theorem {
4464     background: none ;
4465 }
4466
4467 .minipage {
4468     background-color: #fffcf5 ;
4469     border: none ;
```

```

4470 }
4471
4472 div.floatrow figure { border: none ; }
4473
4474 figure figure { border: none ; }
4475
4476
4477 nav.toc, nav.lof, nav.lot, nav.lol {
4478     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4479         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4480         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4481         "Times New Roman", serif;
4482 }
4483
4484 div.sidetoccontainer {
4485     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4486         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4487         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4488         "Times New Roman", serif;
4489     background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4490 }
4491
4492 div.sidetoctitle{
4493     color: #800000 ;
4494 }
4495
4496 header{
4497     background-color: #e0e0e0 ;
4498     background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4499     text-align:center ;
4500 }
4501
4502 footer{
4503     background-color: #e0e0e0 ;
4504     background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4505     padding: 2ex 1em 2ex 1em ;
4506     text-align:left ;
4507 }
4508
4509 nav.botnavigation {
4510     background: #dedcd5 ;
4511     border-top: 1px solid black ;
4512 }
4513 \end{filecontents*}
4514 % \end{Verbatim}% for syntax highlighting
4515 \end{LWRwriteconf}

```

## 40.7 sample\_project.css

sample\_project.css (*file*) The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:** 4516 \begin{LWRwriteconf}  
4517 \begin{filecontents\*}[overwrite]{sample\_project.css}  
4518 /\* ( --- Start of project.css --- ) \*/  
4519 /\* ( --- A sample project-specific CSS file for lwarp --- ) \*/

```

4520
4521 /* Uncomment one of the following: */
4522 @import url("lwarp.css") ;
4523 /* @import url("lwarp_formal.css") ; */
4524 /* @import url("lwarp_sagebrush.css") ; */
4525
4526 /* Project-specific CSS setting follow here. */
4527 /* . . . */
4528
4529 /* ( --- End of project.css --- ) */
4530 \end{filecontents*}
4531 % \end{Verbatim}% for syntax highlighting
4532 \end{LWRwriteconf}

```

## 40.8 lwarp.ist

lwarp.ist (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's `\specialindex`.

**Config file:**

```

4533 \begin{LWRwriteconf}
4534 \begin{filecontents*}[overwrite]{lwarp.ist}
4535 preamble
4536 "\begin{theindex}
4537   \providecommand*\lettergroupDefault[1]{}
4538   \providecommand*\lettergroup[1]{%
4539     \par\textbf{#1}\par
4540     \nopagebreak
4541   }
4542 "
4543 headings_flag 1
4544 heading_prefix "
4545 \lettergroup{"
4546 heading_suffix "}"
4547 delim_0 " , \hyperindexref{"
4548 delim_1 " , \hyperindexref{"
4549 delim_2 " , \hyperindexref{"
4550 delim_n "}, \hyperindexref{"
4551 delim_r "} -- \hyperindexref{"
4552 delim_t "}"
4553 page_compositor "."
4554 \end{filecontents*}
4555 % \end{Verbatim}% for syntax highlighting
4556 \end{LWRwriteconf}

```

## 40.9 lwarp.xdy

lwarp.xdy (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

```

Config file: 4557 \begin{LWRwriteconf}
4558 \begin{filecontents*}[overwrite]{lwarp.xdy}
4559 (require "tex/inputenc/latin.xdy")
4560 (merge-rule "\\PS *" "Postscript")
4561 (require "texindy.xdy")
4562 (require "page-ranges.xdy")
4563 (require "book-order.xdy")
4564 (define-location-class "arabic-page-numbers"
4565   ("arabic-numbers") :min-range-length 1)
4566 (require "makeindex.xdy")
4567 (define-attributes (("hyperindexref")))
4568 (markup-locref :open "\hyperindexref{" :close "}")
4569 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4570 (markup-locref :open "\textbf{\hyperindexref{" :close "}" :attr "textbf")
4571 (markup-locref :open "\textit{\hyperindexref{" :close "}" :attr "textit")
4572 (define-location-class-order ("roman-page-numbers"
4573   "arabic-page-numbers"
4574   "alpha-page-numbers"
4575   "Roman-page-numbers"
4576   "Alpha-page-numbers"
4577   "see"
4578   "seealso"))
4579 \end{filecontents*}
4580 % \end{Verbatim}% for syntax highlighting
4581 \end{LWRwriteconf}

```

## 40.10 lwarp\_one\_limage.cmd

lwarp\_one\_limage.cmd (*file*) Used by lwarp to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file lwarp\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarp\_one\_limage.txt is created instead, then copied to lwarp\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

```

Config file: 4582 \begin{LWRwriteconf}
4583 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4584 \immediate\write\LWR@quickfile{%
4585   pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4586   \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4587 }
4588 \immediate\write\LWR@quickfile{%
4589   pdfcrop --hires --margins \LWRopquote0 1 0 0\LWRopquote\space %
4590   \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4591   \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4592 }
4593 \immediate\write\LWR@quickfile{%
4594   pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4595   \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%

```

```

4596 }
4597 \immediate\write\LWR@quickfile{%
4598   del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4599 }
4600 \immediate\write\LWR@quickfile{%
4601   del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4602 }
4603 \immediate\write\LWR@quickfile{exit}
4604 \immediate\closeout\LWR@quickfile
4605 \end{LWRwriteconf}

```

## 40.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

`lwarp_mathjax.txt` (file) The default MATHJAX script used by `lwarp` when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

**Config file:**

```

4606 \begin{LWRwriteconf}
4607 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4608 <script>
4609 // Lwarp MathJax emulation code
4610 //
4611 // Based on code by Davide P. Cervone.
4612 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4613 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4614 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4615 //
4616 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4617 //
4618 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4619 // subequations? is 0 usually, 1 if inside subequations.
4620 // section is a string printed as-is, or empty.
4621 // number is auto-incremented by MathJax between equations.
4622 //
4623 MathJax = {
4624   subequations: "0",
4625   section: "",
4626   loader: {
4627     load: ['[tex]/tagformat', '[tex]/textmacros'],
4628   },
4629   startup: {
4630     ready() {
4631       // These would be replaced by import commands if you wanted to make
4632       // a proper extension.
4633       const Configuration = MathJax._.input.tex.Configuration.Configuration;
4634       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4635       const Macro = MathJax._.input.tex.Symbol.Macro;

```

```

4636     const TexError = MathJax._.input.tex.TexError.default;
4637     const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4638     const expandable = MathJax._.util.Options.expandable;
4639
4640     // Insert the replacement string into the TeX string, and check
4641     // that there haven't been too many macro substitutions (prevents
4642     // infinite loops).
4643     const useArgument = (parser, text) => {
4644     parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4645     parser.i = 0;
4646     if (++parser.macroCount > parser.configuration.options.maxMacros) {
4647         throw new TexError('MaxMacroSub1',
4648             'MathJax maximum macro substitution count exceeded; ' +
4649             'is there a recursive macro call?');
4650     }
4651     }
4652
4653     // Create the command map for:
4654     // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \gsub, \seteqnumber
4655     new CommandMap('Lwarp-macros', {
4656         ifstar: 'IfstarFunction',
4657         ifnextchar: 'IfnextcharFunction',
4658         ifblank: 'IfblankFunction',
4659         ifstrequal: 'IfstrequalFunction',
4660         gsubstitute: 'GsubstituteFunction',
4661         seteqnumber: 'SeteqnumberFunction'
4662     }, {
4663         // This function implements an ifstar macro.
4664         IfstarFunction(parser, name) {
4665             const resultstar = parser.GetArgument(name);
4666             const resultnostar = parser.GetArgument(name);
4667             const star = parser.GetStar(); // true if there is a *
4668             useArgument(parser, star ? resultstar : resultnostar);
4669         },
4670
4671         // This function implements an ifnextchar macro.
4672         IfnextcharFunction(parser, name) {
4673             let whichchar = parser.GetArgument(name);
4674             if (whichchar.match(/^(?:0x[0-9A-F]+|[0-9]+)$/i)) {
4675                 // $ syntax highlighting
4676                 whichchar = String.fromCodePoint(parseInt(whichchar));
4677             }
4678             const resultnextchar = parser.GetArgument(name);
4679             const resultnotnextchar = parser.GetArgument(name);
4680             const gotchar = (parser.GetNext() === whichchar);
4681             useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4682         },
4683
4684         // This function implements an ifblank macro.
4685         IfblankFunction(parser, name) {
4686             const blankarg = parser.GetArgument(name);
4687             const resultblank = parser.GetArgument(name);
4688             const resultnotblank = parser.GetArgument(name);
4689             const isblank = (blankarg.trim() == "");
4690             useArgument(parser, isblank ? resultblank : resultnotblank);
4691         },
4692
4693         // This function implements an ifstrequal macro.
4694         IfstrequalFunction(parser, name) {
4695             const strequalfirst = parser.GetArgument(name);

```

```

4696     const strequalsecond = parser.GetArgument(name);
4697     const resultequal = parser.GetArgument(name);
4698     const resulnotequal = parser.GetArgument(name);
4699     const isequal = (strequalfirst == strequalsecond);
4700     useArgument(parser, isequal ? resultequal : resulnotequal);
4701   },
4702
4703   // This function implements a gsub macro.
4704   GsubstituteFunction(parser, name) {
4705     const gsubfirst = parser.GetArgument(name);
4706     const gsubsecond = parser.GetArgument(name);
4707     const gsubthird = parser.GetArgument(name);
4708     let gsubresult=gsubfirst.replace(gsubsecond, gsubthird);
4709     useArgument(parser, gsubresult);
4710   },
4711
4712   // This function modifies the equation numbers.
4713   SeteqnumberFunction(parser, name) {
4714     // Get the macro parameters
4715     const star = parser.GetStar(); // true if there is a *
4716     const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4717     const newsubequations = parser.GetArgument(name); // the subequations argument
4718     const neweqsection = parser.GetArgument(name); // the eq section argument
4719     const neweqnumber = parser.GetArgument(name); // the eq number argument
4720     MathJax.config.subequations=newsubequations; // a string with boolean meaning
4721     MathJax.config.section=neweqsection; // a string with numeric meaning
4722     parser.tags.counter = parser.tags.allCounter = neweqnumber;
4723   }
4724
4725 });
4726
4727 // Create the Lwarp-macros package
4728 Configuration.create('Lwarp-macros', {
4729   handler: {macro: ['Lwarp-macros']}
4730 });
4731
4732 MathJax.startup.defaultReady();
4733
4734 // For forward references:
4735 MathJax.startup.input[0].preFilters.add(({math}) => {
4736   if (math.inputData.recompile){
4737     MathJax.config.subequations = math.inputData.recompile.subequations;
4738     MathJax.config.section = math.inputData.recompile.section;
4739   }
4740 });
4741 MathJax.startup.input[0].postFilters.add(({math}) => {
4742   if (math.inputData.recompile){
4743     math.inputData.recompile.subequations = MathJax.config.subequations;
4744     math.inputData.recompile.section = MathJax.config.section;
4745   }
4746 });
4747
4748 // For \left, \right with unicode-math:
4749 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4750 const {Symbol} = MathJax._.input.tex.Symbol;
4751 const {MapHandler} = MathJax._.input.tex.MapHandler;
4752 const delimiter = MapHandler.getMap('delimiter');
4753 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4754 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4755 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));

```



```

4756     delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4757     delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4758     delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4759     delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4760     delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4761     delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4762     delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4763     delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4764     delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4765     delimiter.add('\Lbrbrak', new Symbol('\Lbrbrak', '\u27EC'));
4766     delimiter.add('\Rbrbrak', new Symbol('\Rbrbrak', '\u27ED'));
4767     delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4768     delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4769     delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4770     delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4771     delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4772     delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4773     delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4774     delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4775     delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4776     delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4777     delimiter.add('\llangledot', new Symbol('\llangledot', '\u2991'));
4778     delimiter.add('\rrangledot', new Symbol('\rrangledot', '\u2992'));
4779     delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4780     delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4781     delimiter.add('\Lparengtr', new Symbol('\Lparengtr', '\u2995'));
4782     delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4783     delimiter.add('\lblkbrbrak', new Symbol('\lblkbrbrak', '\u2997'));
4784     delimiter.add('\rblkbrbrak', new Symbol('\rblkbrbrak', '\u2998'));
4785     delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4786     delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4787     delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4788     delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4789     delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4790     delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4791     delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4792   } // ready
4793 }, // startup
4794
4795 tex: {
4796   packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4797   tags: "ams",
4798   tagformat: {
4799     number: function (n) {
4800       if(MathJax.config.subequations==0)
4801         return(MathJax.config.section + n);
4802       else
4803         return(MathJax.config.section + String.fromCharCode(96+n));
4804     },
4805   },
4806 }
4807 }
4808 </script>
4809
4810 <script
4811   id="MathJax-script"
4812   src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
4813 ></script>
4814 \end{filecontents*}
4815 % \end{Verbatim}% for syntax highlighting

```

```
4816 \end{LWRwriteconf}
```

## 40.12 lwarpmk.lua — lwarpmk option

lwarpmk (*Opt*) Creates a local copy of *lwarpmk*.

lwarpmk (*Prog*) Command-line utility to process lwarp files and images.

[parallel processing](#) lateximages and SVG math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the lwarpmk option was given to lwarp.

```
4817 \begin{LWRcreatelwarpmk}

4818 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4819 #!/usr/bin/env texlua
4820
4821 -- Copyright 2016–2022 Brian Dunn
4822
4823
4824 printversion = "v0.911"
4825 requiredconfversion = "2" -- also at *lwarpmk.conf
4826
4827 function printhelp ()
4828 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.");
4829 end
4830
4831
4832 function printusage ()
4833 --
4834 -- Print the usage of the lwarpmk command:
4835 --
4836 print ( [[
4837
4838 lwarpmk print [-p project]: Compile the print version if necessary.
4839 lwarpmk print1 [-p project]: Forced single compile of the print version.
4840 lwarpmk printindex [-p project]: Process print indexes.
4841 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4842 lwarpmk html [-p project]: Compile the HTML version if necessary.
4843 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4844 lwarpmk htmlindex [-p project]: Process HTML indexes.
4845 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4846 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4847 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4848 lwarpmk pdftohtml [-p project]:
4849     For use with latexmk or a Makefile:
4850     Converts project_html.pdf to project_html.html and individual HTML files.
4851     Finishes the HTML conversion even if there was a compile error.
4852 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
```

```

4853 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4854 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4855     *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4856     *_html.pdf, *_html.html, *_html.sidetoc
4857 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4858 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4859 lwarpmk -v: Print the version number.
4860 lwarpmk -h: Print this help message.
4861 lwarpmk --help: Print this help message.
4862
4863 ]] )
4864 -- printconf ()
4865 end
4866
4867
4868 function splitfilename ( pathandfilename )
4869 --
4870 -- Separates out the path and extension from a filename.
4871 -- Returns path, filename with extension, and extension.
4872 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4873 --
4874 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code\_snippets:
4875 --     split_filename_in_to_path_filename_and_extension
4876 --
4877     if lfs.attributes(pathandfilename,"mode") == "directory" then
4878         local strPath = pathandfilename:gsub("[\\\/]$", "") -- $(syntax highlighting)
4879         return strPath.."\\", "", ""
4880     end
4881     pathandfilename = pathandfilename.."."
4882     return pathandfilename:match("^(-)([^\\/]-)%.(^[^\/.]-)%?.?$")
4883 end
4884
4885
4886 function splitfile (destfile,sourcefile)
4887 --
4888 -- Split one large sourcefile into a number of files,
4889 -- starting with destfile.
4890 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4891 -- If lwarp is in use, sets usinglwarp.
4892 --
4893 usinglwarp = false ;
4894 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4895 local sfile = io.open(sourcefile)
4896 io.output(destfile)
4897 for line in sfile:lines() do
4898     i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4899     if ( i~= nil) and (copen == "<!--") and (cstart == "Start file") then
4900         -- split the file
4901         io.output(newfilename) ;
4902     else
4903         if ( i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4904             -- verified the use of \usepackage{lwarp}
4905             usinglwarp = true ;
4906         else
4907             -- not a splitpoint
4908             io.write (line .. "\n") ;
4909         end end
4910     end -- do
4911     io.close(sfile)
4912     if ( usinglwarp == false ) then

```

```
4913     print ("lwarpmk: ===")
4914     print ("lwarpmk: \\usepackage{lwarp} was not detected.")
4915     print ("lwarpmk: The HTML output will not be correct.")
4916     print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
4917     print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4918     print ("lwarpmk: ===")
4919 end
4920 end -- function
4921
4922
4923 function cvalueerror ( line, linenum , cvalue )
4924 --
4925 -- Incorrect value, so print an error and exit.
4926 --
4927     print ("lwarpmk: ===")
4928     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4929     print (
4930         "lwarpmk: incorrect variable value \"" .. cvalue ..
4931         "\"" in lwarpmk.conf.\n"
4932     ) ;
4933     print ("lwarpmk: ===")
4934 --     printconf () ;
4935     os.exit(1) ;
4936 end
4937
4938
4939 function printhowtorecompile ()
4940 -- Tells the user how to recompile to regenerate the configuration files.
4941     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename..".lwarpmkconf" )
4942     print ("lwarpmk:  must be updated. To do so, recompile" )
4943     print ("lwarpmk:  " , sourcename..".tex" )
4944     if ( printlatexcmd == "" ) then
4945         print ("lwarpmk:  using xe/luatex/pdflatex," )
4946     else
4947         print ("lwarpmk:  using the command:")
4948         print ("lwarpmk:  " , printlatexcmd )
4949     end
4950     print ("lwarpmk:  then use lwarpmk again.")
4951 end -- printhowtorecompile
4952
4953
4954 function ignoreconf ()
4955 -- Global argument index
4956 argindex = 2
4957 end
4958
4959 function loadconf ()
4960 --
4961 -- Load settings from the project's "lwarpmk.conf" file:
4962 --
4963 -- Default configuration filename:
4964 local conffile = "lwarpmk.conf"
4965 local confroot = "lwarpmk"
4966 -- Global argument index
4967 argindex = 2
4968 -- Optional configuration filename:
4969 if ( arg[argindex] == "-p" ) then
4970     argindex = argindex + 1
4971     confroot = arg[argindex]
4972     conffile = confroot..".lwarpmkconf"
```

```
4973     argindex = argindex + 1
4974 end
4975 -- Additional defaults:
4976 confversion = "0"
4977 opsystem = "Unix"
4978 imagesdirectory = "lateximages"
4979 imagesname = "image-"
4980 latexmk = "false"
4981 printlatexcmd = ""
4982 HTMLlatexcmd = ""
4983 printindexcmd = ""
4984 HTMLindexcmd = ""
4985 latexmkindexcmd = ""
4986 -- to be removed:
4987 -- indexprog = "makeindex"
4988 -- makeindexstyle = "lwarp.ist"
4989 -- xindylanguage = "english"
4990 -- xindycodepage = "utf8"
4991 -- xindystyle = "lwarp.xdy"
4992 -- pdftotextenc = "UTF-8"
4993 glossarycmd = "makeglossaries"
4994 -- Verify the file exists:
4995 if (lfs.attributes(conffile,"mode")==nil) then
4996     -- file not exists
4997     print ("lwarpmk: ===")
4998     print ("lwarpmk: File \" .. conffile ..\" does not exist.")
4999     print ("lwarpmk: Move to the project's source directory,")
5000     print ("lwarpmk: recompile using pdflatex, xelatex, or luatex,")
5001     print ("lwarpmk: then try using lwarpmk again.")
5002     if ( arg[argindex] ~= nil ) then
5003         print (
5004             "lwarpmk: (\" .. confroot ..
5005             "\" does not appear to be a project name.)"
5006         )
5007     end
5008     print ("lwarpmk: ===")
5009     printhelp () ;
5010     os.exit(1) -- exit the entire lwarpmk script
5011 else -- file exists
5012 -- Read the file:
5013 print ("lwarpmk: Reading " .. conffile ..".")
5014 local cfile = io.open(conffile)
5015 -- Scan each line, parsing each line as: name = [[string]]
5016 local linenum = 0
5017 for line in cfile:lines() do -- scan lines
5018 linenum = linenum + 1
5019 i,j,cvarname,cvalue = string.find (line,"([%w-]*)%s*=%s*%[[%^]]*%]");
5020 -- Error if incorrect enclosing characters:
5021 if ( i == nil ) then
5022     print ("lwarpmk: ===")
5023     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
5024     print ("lwarpmk: Incorrect entry in " .. conffile ..".\n" ) ;
5025     print ("lwarpmk: ===")
5026 --     printconf () ;
5027     os.exit(1) ;
5028 end -- nil
5029 if ( cvarname == "confversion" ) then
5030     confversion = cvalue
5031 elseif ( cvarname == "opsystem" ) then
5032     -- Verify choice of opsystem:
```

```

5033     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
5034         opsystem = cvalue
5035     else
5036         cvalueerror ( line, linenum , cvalue )
5037     end
5038 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
5039 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
5040 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
5041 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
5042 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
5043 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
5044 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
5045 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
5046 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
5047 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
5048 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
5049 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
5050 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
5051 else
5052     print ("lwarpmk: ===")
5053     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
5054     print (
5055         "lwarpmk: Incorrect variable name \" .. cvarname .. "\" in " ..
5056         conffile .. ".\n"
5057     ) ;
5058     print ("lwarpmk: ===")
5059 --     printconf () ;
5060 os.exit(1) ;
5061 end -- cvarname
5062 end -- do scan lines
5063 io.close(cfile)
5064 end -- file exists
5065 -- Error if sourcename is "lwarp".
5066 -- This could happen if a local copy of lwarp has recently been recompiled.
5067 if sourcename=="lwarp" then
5068     print ("lwarpmk: ===")
5069     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5070     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5071     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5072     print ("lwarpmk: In your project directory, recompile your project")
5073     print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5074     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5075     print ("lwarpmk: and you may again use lwarpmk.")
5076     print ("lwarpmk: ===")
5077     os.exit(1)
5078 end -- sourcename of "lwarp"
5079 -- Select some operating-system commands:
5080 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5081     rmname = "rm"
5082     mvname = "mv"
5083     cpname = "cp"
5084     touchnamepre = "touch"
5085     touchnamepost = ""
5086     newtouchname = "touch"
5087     dirslash = "/"
5088     opquote= "\""
5089     cmdgroupopenname = " ( "
5090     cmdgroupclosename = " ) "
5091     seqname = " && "
5092     bgname = " &"

```

```
5093 elseif opsystem=="Windows" then -- For Windows
5094     rmname = "DEL"
5095     mvname = "MOVE"
5096     cpname = "COPY"
5097     touchnamepre = "COPY /b"
5098     touchnamepost = "+,,"
5099     newtouchname = "echo empty >"
5100     dirslash = "\\"
5101     opquote= "\""
5102     cmdgroupopenname = ""
5103     cmdgroupclosename = ""
5104     seqname = " & "
5105     bgname = ""
5106 else
5107     print ("lwarpmk: ===")
5108     print ("lwarpmk: Select Unix or Windows for opsystem." )
5109     print ("lwarpmk: ===")
5110     os.exit(1)
5111 end --- for Windows
5112 -- Warning if the operating system does not appear to be correct,
5113 -- in case files were transferred to another system.
5114 if ( (package.config:sub(1,1)) ~= dirslash ) then
5115     print ("lwarpmk: ===")
5116     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
5117     printhowtorecompile ()
5118     print ("lwarpmk: ===")
5119     os.exit(1)
5120 end
5121 -- Error if the configuration file's version is not current:
5122 if ( confversion ~= requiredconfversion ) then
5123     print ("lwarpmk: ===")
5124     printhowtorecompile ()
5125     print ("lwarpmk: ===")
5126     os.exit(1)
5127 end
5128 end -- loadconf
5129
5130
5131 function executecheckerror ( executecommands , errormessage )
5132 --
5133 -- Execute an operating system call,
5134 -- and maybe exit with an error message.
5135 --
5136 local err
5137 err = os.execute ( executecommands )
5138 if ( err ~= 0 ) then
5139     print ("lwarpmk: ===")
5140     print ("lwarpmk: " .. errormessage )
5141     print ("lwarpmk: ===")
5142     os.exit(1)
5143 end
5144 end -- executecheckerror
5145
5146
5147 function refreshdate ()
5148 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5149 end
5150
5151
5152
```

```
5153 function reruntoget (filesource)
5154 --
5155 -- Scan the LaTeX log file for the phrase "Rerun to get",
5156 -- indicating that the file should be compiled again.
5157 -- Return true if found.
5158 --
5159 local fsource = io.open(filesource)
5160 for line in fsource:lines() do
5161 if ( string.find(line,"Rerun to get") ~= nil ) then
5162     io.close(fsource)
5163     return true
5164 end -- if
5165 end -- do
5166 io.close(fsource)
5167 return false
5168 end
5169
5170
5171
5172 function onetime (latexcmd, fsuffix)
5173 --
5174 -- Compile one time, return true if should compile again.
5175 -- fsuffix is "" for print, "_html" for HTML output.
5176 --
5177 print("lwarpmk: Compiling with: " .. latexcmd)
5178 executecheckerror (
5179     latexcmd ,
5180     "Compile error."
5181 )
5182 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
5183 end
5184
5185
5186 function manytimes (latexcmd, fsuffix)
5187 --
5188 -- Compile up to five times.
5189 -- fsuffix is "" for print, "_html" for HTML output
5190 --
5191 if onetime(latexcmd, fsuffix) == true then
5192 if onetime(latexcmd, fsuffix) == true then
5193 if onetime(latexcmd, fsuffix) == true then
5194 if onetime(latexcmd, fsuffix) == true then
5195 if onetime(latexcmd, fsuffix) == true then
5196 end end end end end
5197 end
5198
5199
5200 function verifyfileexists (filename)
5201 --
5202 -- Exit if the given file does not exist.
5203 --
5204 if (lfs.attributes ( filename , "modification" ) == nil ) then
5205     print ("lwarpmk: ===")
5206     print ("lwarpmk: " .. filename .. " not found." ) ;
5207     print ("lwarpmk: ===")
5208     os.exit (1) ;
5209 end
5210 end
5211
5212
```



```
5213
5214 function pdftohtml ()
5215 --
5216 -- Convert <project>_html.pdf into HTML files:
5217 --
5218 -- Convert to text:
5219 print ("lwarpmk: Converting " .. sourcename
5220 .. "_html.pdf to " .. sourcename .. "_html.html")
5221 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5222 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5223 if ( err ~= 0 ) then
5224   print ("lwarpmk: ===")
5225   print ("lwarpmk: Ensure that the Poppler utilities are installed." )
5226   print ("lwarpmk: See the Lwarp manual: 'Installing additional utilities'.")
5227   print ("lwarpmk: ===")
5228   os.exit(1)
5229 end
5230 -- Split the result into individual HTML files:
5231 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5232 end
5233
5234
5235 function removeaux ()
5236 --
5237 -- Remove auxiliary files:
5238 -- All .aux files are removed since there may be many bbl*.aux files.
5239 -- Also removes sourcename_html.pdf, sourcename_html.html,
5240 -- and sourcename_html.sidetoc, plus comment_*.cut.
5241 --
5242 os.execute ( rmname .. " *.aux " ..
5243   sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5244   sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5245   sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5246   sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5247   " *.idx " ..
5248   " *.ind " ..
5249   sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5250   sourcename .. ".log " .. sourcename .. "_html.log " ..
5251   sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5252   sourcename .. "_html.pdf " ..
5253   sourcename .. "_html.html " ..
5254   sourcename .. "_html.sidetoc " ..
5255   " *_html_inc.* " ..
5256   " comment_*.cut"
5257 )
5258 end
5259
5260 function checkhtmlpdfexists ()
5261 --
5262 -- Error if the HTML document does not exist.
5263 -- The lateximages are drawn from the HTML PDF version of the document,
5264 -- so "lwarpmk html" must be done before "lwarpmk limages".
5265 --
5266 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5267 if ( htmlpdffile == nil ) then
5268   print ("")
5269   print ("lwarpmk: ===")
5270   print ("lwarpmk: The HTML version of the document does not exist.")
5271   print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5272   print ("lwarpmk: ===")

```

```
5273     os.exit(1)
5274 end
5275 io.close (htmlpdffile)
5276 end -- checkhtmlpdfexists
5277
5278
5279 function warnlimages ()
5280 --
5281 -- Warning of a missing <sourcename>-images.txt file:
5282     print ("lwarpmk: ===")
5283     print ("lwarpmk: \"" .. sourcename .. "-images.txt\" does not exist.")
5284     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5285     print ("lwarpmk: or the file has been deleted somehow.")
5286     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5287     print ("lwarpmk: and recreate \"" .. sourcename .. "-images.txt\".")
5288     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5289     print ("lwarpmk: then \"" .. sourcename .. "-images.txt\" will never exist, and")
5290     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5291     print ("lwarpmk: ===")
5292 end -- warnlimages
5293
5294
5295 function warnlimagesrecompile ()
5296 -- Warning if must recompile before creating limages:
5297     print ("")
5298     print ("lwarpmk: ===")
5299     print ("lwarpmk: Cross-references are not yet correct.")
5300     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5301     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5302     print ("lwarpmk: ===")
5303 end --warnlimagesrecompile
5304
5305
5306 function checklimages ()
5307 --
5308 -- Check <sourcename>.txt to see if need to recompile first.
5309 -- If any entry has a page number of zero, then there were incorrect images.
5310 --
5311 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5312 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5313 if ( limagesfile == nil ) then
5314     warnlimages ()
5315     os.exit(1)
5316 end
5317 -- Track warning to recompile if find a page 0
5318 local pagezerowarning = false
5319 -- Scan <sourcename>.txt
5320 for line in limagesfile:lines() do
5321     -- lwimpage is the page number in the PDF which has the image
5322     -- lwimghash is true if this filename is a hash
5323     -- lwimname is the lateximage filename root to assign for the image
5324     i,j,lwimpage,lwimghash,lwimname = string.find (line,"|(.*)|(.)|(.)|")
5325     -- For each entry:
5326     if ( i~=nil ) then
5327         -- If the page number is 0, image references are incorrect
5328         -- and must recompile the soure document:
5329         if ( lwimpage == "0" ) then
5330             pagezerowarning = true
5331         end
5332     end -- if i~=nil

```

```
5333 end -- do
5334 -- The last line should be |end|end|end|.
5335 -- If not, the compile must have aborted, and the images are incomplete.
5336 if ( lwimgpage ~= "end" ) then
5337     warnlimagesrecompile()
5338     os.exit(1) ;
5339 end
5340 if ( pagezerowarning ) then
5341     warnlimagesrecompile()
5342     os.exit(1) ;
5343 end -- pagezerowarning
5344 end -- checklimages
5345
5346
5347 function createuniximage ( lwimgfullname )
5348 --
5349 -- Create one lateximage for Unix / Linux / Mac OS.
5350 --
5351 executecheckerror (
5352     cmdgroupopenname ..
5353     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5354     sourcename .. "_html.pdf " ..
5355     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5356     seqname ..
5357     -- Crop the image:
5358     "pdfcrop --hires --margins \"0 1 0 0\" " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5359     lwimgpage .. ".pdf " ..
5360     imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5361     seqname ..
5362     -- Convert the image to svg:
5363     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5364     imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5365     seqname ..
5366     -- Remove the temporary files:
5367     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5368     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5369     cmdgroupclosename .. " >/dev/null " .. bgnname
5370     ,
5371     "File error trying to convert " .. lwimgfullname
5372 )
5373 -- Every 32 images, wait for completion at below normal priority,
5374 -- allowing other image tasks to catch up.
5375 numimageprocesses = numimageprocesses + 1
5376 if ( numimageprocesses > 32 ) then
5377     numimageprocesses = 0
5378     print ( "lwarpmk: waiting" )
5379     executecheckerror ( "wait" , "File error trying to wait.")
5380 end
5381 end -- createuniximage
5382
5383
5384 function createwindowsimage ( lwimgfullname )
5385 --
5386 -- Create one lateximage for Windows.
5387 --
5388 -- Every 32 images, wait for completion at below normal priority,
5389 -- allowing other image tasks to catch up.
5390 numimageprocesses = numimageprocesses + 1
5391 if ( numimageprocesses > 32 ) then
5392     numimageprocesses = 0
```

```

5393     thiswaitcommand = "/WAIT /BELOWNORMAL"
5394     print ( "lwarpmk: waiting" )
5395 else
5396     thiswaitcommand = ""
5397 end
5398 -- Execute the image generation command
5399 executecheckerror (
5400     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5401     lwimgpage .. " " ..
5402     lwimghash .. " " ..
5403     lwimgname .. " " ..
5404     sourcename .. " <nul >nul"
5405     ,
5406     "File error trying to create image."
5407 )
5408 end -- createwindowsimage
5409
5410
5411 function createonelateximage ( line )
5412 --
5413 -- Given the next line of <sourcename>.txt, convert a single image.
5414 --
5415 -- lwimgpage is the page number in the PDF which has the image
5416 -- lwimghash is true if this filename is a hash
5417 -- lwimgname is the lateximage filename root to assign for the image
5418 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5419 -- For each entry:
5420 if ( (i~=nil) ) then
5421     -- Skip if the page number is 0:
5422     if ( lwimgpage == "0" ) then
5423         pagezerowarning = true
5424     -- Skip if the page number is "end":
5425     else if ( lwimgpage == "end" ) then
5426     else
5427         -- Skip is this image is hashed and already exists:
5428         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5429         if (
5430             (lwimghash ~= "true") or
5431             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5432         )
5433         then -- not hashed or not exists:
5434             -- Print the name of the file being generated:
5435             print ( "lwarpmk: " .. lwimgname )
5436             -- Touch/create the dest so that only once instance tries to build it:
5437             executecheckerror (
5438                 newtouchname .. " " .. lwimgfullname ,
5439                 "File error trying to touch " .. lwimgfullname
5440             )
5441             -- Separate out the image into its own single-page pdf:
5442             if opsystem=="Unix" then
5443                 createuniximage (lwimgfullname)
5444             elseif opsystem=="Windows" then
5445                 createwindowsimage (lwimgfullname)
5446             end
5447         end -- not hashed or not exists
5448     end -- not page "end"
5449     end -- not page 0
5450 end -- not nil
5451 end -- createonelateximage
5452

```

```
5453
5454 function createlateximages ()
5455 --
5456 -- Create lateximages based on <sourcename>-images.txt:
5457 --
5458 -- See if the document must be recompiled first:
5459 checklimages ()
5460 -- See if the HTML version exists:
5461 checkhtmlpdfexists ()
5462 -- Attempt to create the lateximages:
5463 print ("lwarpmk: Creating lateximages.")
5464 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5465 if ( limagesfile == nil ) then
5466     warnlimages ()
5467     os.exit(1)
5468 end
5469 -- Create the lateximages directory, ignore error if already exists
5470 err = os.execute("mkdir " .. imagesdirectory)
5471 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5472 if opsystem=="Windows" then
5473     executecheckerror (
5474         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5475         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5476     )
5477 end -- create lwarp_one_limage.cmd
5478 -- Track the number of parallel processes
5479 numimageprocesses = 0
5480 -- Track warning to recompile if find a page 0
5481 pagezerowarning = false
5482 -- Scan <sourcename>.txt
5483 for line in limagesfile:lines() do
5484     createonelateximage ( line )
5485 end -- do
5486 io.close(limagesfile)
5487 print ( "lwarpmk limages: ===")
5488 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5489 print ( "lwarpmk limages:  before reloading the page." )
5490 print ( "lwarpmk limages: ===")
5491 print ( "lwarpmk limages: Done." )
5492 if ( pagezerowarning == true ) then
5493     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5494     print ( "lwarpmk limages:  Enter \"lwarpmk cleanlimages\", then" )
5495     print ( "lwarpmk limages:  recompile the document one more time, then" )
5496     print ( "lwarpmk limages:  repeat \"lwarpmk images\" again." )
5497 end -- pagezerowarning
5498 end -- function
5499
5500
5501 function convertepstopdf ()
5502 --
5503 -- Converts EPS files to PDF files.
5504 -- The filenames are arg[argindex] and up.
5505 -- arg[1] is the command "epstopdf".
5506 --
5507 ignoreconf ()
5508 for i = argindex , #arg do
5509     if (lfs.attributes(arg[i],"mode")==nil) then
5510         print ("lwarpmk: File \"\" .. arg[i] .. "\"" does not exist.")
5511     else
5512         print ("lwarpmk: Converting \"\" .. arg[i] .. "\"")
```

```
5513     thispath, thisfilename, thisextension = splitfilename(arg[i])
5514     if ( thispath == nil ) then
5515         os.execute ( "epstopdf " .. arg[i] )
5516     else
5517         os.execute (
5518             "epstopdf " ..
5519             thispath .. thisfilename .. "." .. thisextension .. " " ..
5520             thispath .. thisfilename .. ".pdf"
5521         )
5522     end
5523 end -- if
5524 end -- do
5525 end --function
5526
5527
5528 function convertpdftosvg ()
5529 --
5530 -- Converts PDF files to SVG files.
5531 -- The filenames are arg[argindex] and up.
5532 -- arg[1] is the command "pdftosvg".
5533 --
5534 ignoreconf ()
5535 for i = argindex , #arg do
5536     if (lfs.attributes(arg[i],"mode")==nil) then
5537         print ("lwarpmk: File \"" .. arg[i] .. "\"" does not exist.")
5538     else
5539         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5540         thispath, thisfilename, thisextension = splitfilename(arg[i])
5541         if ( thispath == nil ) then
5542             os.execute ( "pdftocairo -svg " .. arg[i] )
5543         else
5544             os.execute (
5545                 "pdftocairo -svg " ..
5546                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5547                 thispath .. thisfilename .. ".svg"
5548             )
5549         end
5550     end -- if
5551 end -- do
5552 end --function
5553
5554
5555 -- Force an update and conclude processing:
5556 function updateanddone ()
5557 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5558 refreshdate ()
5559 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5560 print ("lwarpmk: Done.")
5561 end -- function
5562
5563
5564 -- Start of the main code: --
5565
5566
5567 -- lwarpmk --version :
5568
5569 if (arg[1] == "--version") then
5570 print ( "lwarpmk: " .. printversion )
5571
5572 else -- not --version
```

```
5573
5574
5575 -- print intro:
5576
5577 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5578
5579
5580 -- lwarpmk print:
5581
5582 if arg[1] == "print" then
5583   loadconf ()
5584   if ( latexmk == "true" ) then
5585     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5586     executecheckerror (
5587       printlatexcmd ,
5588       "Compile error."
5589     )
5590     print ("lwarpmk: Done.")
5591   else -- not latexmk
5592     verifyfileexists (sourcename .. ".tex") ;
5593     -- See if up to date:
5594     if (
5595       ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5596       (
5597         lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5598         lfs.attributes ( sourcename .. ".pdf" , "modification" )
5599       )
5600     ) then
5601       -- Recompile if not yet up to date:
5602       manytimes(printlatexcmd, "")
5603       print ("lwarpmk: Done.") ;
5604     else
5605       print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5606     end
5607   end -- not latexmk
5608
5609
5610 -- lwarpmk print1:
5611
5612 elseif arg[1] == "print1" then
5613   loadconf ()
5614   verifyfileexists (sourcename .. ".tex") ;
5615   onetime(printlatexcmd, "")
5616   print ("lwarpmk: Done.") ;
5617
5618
5619 -- lwarpmk printindex:
5620 -- Compile the index then touch the source
5621 -- to trigger a recompile of the document:
5622
5623 elseif arg[1] == "printindex" then
5624   loadconf ()
5625   os.execute ( printindexcmd )
5626   print ("lwarpmk: -----")
5627   updateanddone ()
5628
5629
5630 -- lwarpmk printglossary:
5631 -- Compile the glossary then touch the source
5632 -- to trigger a recompile of the document:
```

```
5633
5634 elseif arg[1] == "printglossary" then
5635 loadconf ()
5636 print ("lwarpmk: Processing the glossary.")
5637
5638 os.execute(glossarycmd .. " " .. sourcename)
5639 updateanddone ()
5640
5641
5642 -- lwarpmk html:
5643
5644 elseif arg[1] == "html" then
5645 loadconf ()
5646 if ( latexmk == "true" ) then
5647   print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5648   executecheckerror (
5649     HTMLlatexcmd ,
5650     "Compile error."
5651   )
5652   pdftohtml ()
5653   print ("lwarpmk: Done.")
5654 else -- not latexmk
5655   verifyfileexists ( sourcename .. ".tex" ) ;
5656   -- See if exists and is up to date:
5657   if (
5658     ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5659     (
5660       lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5661       lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5662     )
5663   ) then
5664     -- Recompile if not yet up to date:
5665     manytimes(HTMLlatexcmd, "_html")
5666     pdftohtml ()
5667     print ("lwarpmk: Done.")
5668   else
5669     print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5670   end
5671 end -- not latexmk
5672
5673
5674 -- lwarpmk html1:
5675
5676 elseif arg[1] == "html1" then
5677   loadconf ()
5678   verifyfileexists ( sourcename .. ".tex" ) ;
5679   onetime(HTMLlatexcmd, "_html")
5680   pdftohtml ()
5681   print ("lwarpmk: Done.")
5682
5683
5684 -- lwarpmk pdftohtml:
5685 elseif arg[1] == "pdftohtml" then
5686   loadconf ()
5687   pdftohtml ()
5688
5689
5690 -- lwarpmk htmlindex:
5691 -- Compile the index then touch the source
5692 -- to trigger a recompile of the document:
```



```
5693
5694 elseif arg[1] == "htmlindex" then
5695 loadconf ()
5696 os.execute ( HTMLindexcmd )
5697 print ("lwarpmk: -----")
5698 updateanddone ()
5699
5700
5701 -- lwarpmk htmlglossary:
5702 -- Compile the glossary then touch the source
5703 -- to trigger a recompile of the document.
5704 -- The <sourcename>.xdy file is created by the glossaries package.
5705
5706 elseif arg[1] == "htmlglossary" then
5707 loadconf ()
5708 print ("lwarpmk: Processing the glossary.")
5709 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5710 updateanddone ()
5711
5712
5713 -- lwarpmk limages:
5714 -- Scan the <sourcename>.txt file to create lateximages.
5715
5716 elseif arg[1] == "limages" then
5717 loadconf ()
5718 print ("lwarpmk: Processing images.")
5719 createlateximages ()
5720 print ("lwarpmk: Done.")
5721
5722
5723 -- lwarpmk again:
5724 -- Touch the source to trigger a recompile.
5725
5726 elseif arg[1] == "again" then
5727 loadconf ()
5728 updateanddone ()
5729
5730
5731 -- lwarpmk clean:
5732 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5733
5734 elseif arg[1] == "clean" then
5735 loadconf ()
5736 removeaux ()
5737 print ("lwarpmk: Done.")
5738
5739
5740 -- lwarpmk cleanall
5741 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5742 -- and also project.pdf, project.dvi, *.html
5743
5744 elseif arg[1] == "cleanall" then
5745 loadconf ()
5746 removeaux ()
5747 os.execute ( rmname .. " " ..
5748     sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5749     sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5750     "*.html"
5751     )
5752 print ("lwarpmk: Done.")
```

```
5753
5754
5755 -- lwarpmk cleanimages
5756 -- Remove images from the imagesdirectory.
5757
5758 elseif arg[1] == "cleanimages" then
5759 loadconf ()
5760 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5761 print ("lwarpmk: Done.")
5762
5763 -- lwarpmk epstopdf <list of file names>
5764 -- Convert EPS files to PDF using epstopdf
5765 elseif arg[1] == "epstopdf" then
5766 convertepstopdf ()
5767 print ("lwarpmk: Done.")
5768
5769
5770 -- lwarpmk pdftosvg <list of file names>
5771 -- Convert PDF files to SVG using pdftocairo
5772 elseif arg[1] == "pdftosvg" then
5773 convertpdftosvg ()
5774 print ("lwarpmk: Done.")
5775
5776
5777 -- lwarpmk with no argument :
5778
5779 elseif (arg[1] == nil) then
5780 printhelp ()
5781
5782
5783 -- lwarpmk -v:
5784
5785 elseif (arg[1] == "-v" ) then
5786 -- The version number has already been printed
5787 -- by the lwarpmk intro.
5788
5789 -- lwarpmk -h or lwarpmk --help :
5790
5791 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5792 printusage ()
5793
5794
5795 -- Unknown command:
5796
5797 else
5798 printhelp ()
5799 print ("\nlwarpmk: ***** Unknown command \""..arg[1].."\". *****\n")
5800 end
5801
5802 end -- not --version
5803 \end{filecontents*}
5804 % \end{Verbatim}% for syntax highlighting

5805 \end{LWRcreatelwarpmk}
```

## 41 Stacks

for HTML output: 5806 `\begin{warpHTML}`



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

### 41.1 Assigning depths

initial depths for empty stack entries:

```
5807 \newcommand*\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `LWR@depthfinished`:

```
5808 \newcommand*\LWR@depthfinished}{-4}
5809 \newcommand*\LWR@depthbook}{-2}
5810 \newcommand*\LWR@depthpart}{-1}
5811 \newcommand*\LWR@depthchapter}{0}
5812 \newcommand*\LWR@depthsection}{1}
5813 \newcommand*\LWR@depthsubsection}{2}
5814 \newcommand*\LWR@depthsubsubsection}{3}
5815 \newcommand*\LWR@depthparagraph}{4}
5816 \newcommand*\LWR@depthsubparagraph}{5}
```

Used by `\itemize`, `\enumerate`, `\description`:

```
5817 \newcommand*\LWR@depthlist}{6}
```

Used by `\item`:

```
5818 \newcommand*\LWR@depthlistitem}{7}
5819 \let\LWR@depthdescitem\LWR@depthlistitem
```

### 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```
5820 \newcommand*\LWR@closeone}{% top of the stack
5821 \newcommand*\LWR@closetwo}{%
5822 \newcommand*\LWR@closethree}{%
5823 \newcommand*\LWR@closefour}{%
```

```

5824 \newcommand*\LWR@closefive{}
5825 \newcommand*\LWR@closesix{}
5826 \newcommand*\LWR@closeseven{}
5827 \newcommand*\LWR@closeeight{}
5828 \newcommand*\LWR@closenine{}
5829 \newcommand*\LWR@closeten{}
5830 \newcommand*\LWR@closeeleven{}
5831 \newcommand*\LWR@closetwelve{}
5832 \newcommand*\LWR@closethirteen{}
5833 \newcommand*\LWR@closefourteen{}
5834 \newcommand*\LWR@closefifteen{}
5835 \newcommand*\LWR@closesixteen{}
5836 \newcommand*\LWR@closeseventeen{}
5837 \newcommand*\LWR@closeeighteen{}
5838 \newcommand*\LWR@closenineteen{}

```

### 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```

\begin{itemize}
  \item{A}
  \begin{description}
    \item{B}
  \end{description}
\end{itemize}

```

---

```

5839 \newcommand*\LWR@closedepthone{\LWR@depthnone}% top of the stack
5840 \newcommand*\LWR@closedepthtwo{\LWR@depthnone}
5841 \newcommand*\LWR@closedepththree{\LWR@depthnone}
5842 \newcommand*\LWR@closedepthfour{\LWR@depthnone}
5843 \newcommand*\LWR@closedepthfive{\LWR@depthnone}
5844 \newcommand*\LWR@closedepthsix{\LWR@depthnone}
5845 \newcommand*\LWR@closedepthseven{\LWR@depthnone}
5846 \newcommand*\LWR@closedeptheight{\LWR@depthnone}
5847 \newcommand*\LWR@closedepthnine{\LWR@depthnone}
5848 \newcommand*\LWR@closedepthten{\LWR@depthnone}
5849 \newcommand*\LWR@closedeptheleven{\LWR@depthnone}
5850 \newcommand*\LWR@closedepthtwelve{\LWR@depthnone}
5851 \newcommand*\LWR@closedepththirteen{\LWR@depthnone}
5852 \newcommand*\LWR@closedepthfourteen{\LWR@depthnone}
5853 \newcommand*\LWR@closedepthfifteen{\LWR@depthnone}
5854 \newcommand*\LWR@closedepthsixteen{\LWR@depthnone}
5855 \newcommand*\LWR@closedepthseventeen{\LWR@depthnone}
5856 \newcommand*\LWR@closedeptheighteen{\LWR@depthnone}
5857 \newcommand*\LWR@closedepthnineteen{\LWR@depthnone}

```

### 41.4 Pushing and popping the stack

```
\LWR@pushclose {<sectiontype>}
```

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

5858 \NewDocumentCommand{\LWR@pushclose}{m}
5859 {%
5860 \global\let\LWR@close nineteen\LWR@close eighteen%
5861 \global\let\LWR@close eighteen\LWR@close seventeen%
5862 \global\let\LWR@close seventeen\LWR@close sixteen%
5863 \global\let\LWR@close sixteen\LWR@close fifteen%
5864 \global\let\LWR@close fifteen\LWR@close fourteen%
5865 \global\let\LWR@close fourteen\LWR@close thirteen%
5866 \global\let\LWR@close thirteen\LWR@close twelve%
5867 \global\let\LWR@close twelve\LWR@close eleven%
5868 \global\let\LWR@close eleven\LWR@close ten%
5869 \global\let\LWR@close ten\LWR@close nine%
5870 \global\let\LWR@close nine\LWR@close eight%
5871 \global\let\LWR@close eight\LWR@close seven%
5872 \global\let\LWR@close seven\LWR@close six%
5873 \global\let\LWR@close six\LWR@close five%
5874 \global\let\LWR@close five\LWR@close four%
5875 \global\let\LWR@close four\LWR@close three%
5876 \global\let\LWR@close three\LWR@close two%
5877 \global\let\LWR@close two\LWR@close one%
5878 \global\csletcs{LWR@close one}{LWR@printclose#1}%
5879 \global\let\LWR@closedepth nineteen\LWR@closedepth eighteen%
5880 \global\let\LWR@closedepth eighteen\LWR@closedepth seventeen%
5881 \global\let\LWR@closedepth seventeen\LWR@closedepth sixteen%
5882 \global\let\LWR@closedepth sixteen\LWR@closedepth fifteen%
5883 \global\let\LWR@closedepth fifteen\LWR@closedepth fourteen%
5884 \global\let\LWR@closedepth fourteen\LWR@closedepth thirteen%
5885 \global\let\LWR@closedepth thirteen\LWR@closedepth twelve%
5886 \global\let\LWR@closedepth twelve\LWR@closedepth eleven%
5887 \global\let\LWR@closedepth eleven\LWR@closedepth ten%
5888 \global\let\LWR@closedepth ten\LWR@closedepth nine%
5889 \global\let\LWR@closedepth nine\LWR@closedepth eight%
5890 \global\let\LWR@closedepth eight\LWR@closedepth seven%
5891 \global\let\LWR@closedepth seven\LWR@closedepth six%
5892 \global\let\LWR@closedepth six\LWR@closedepth five%
5893 \global\let\LWR@closedepth five\LWR@closedepth four%
5894 \global\let\LWR@closedepth four\LWR@closedepth three%
5895 \global\let\LWR@closedepth three\LWR@closedepth two%
5896 \global\let\LWR@closedepth two\LWR@closedepth one%
5897 \global\csletcs{LWR@closedepth one}{LWR@depth#1}%

```

Error if the deepest depth is no longer `\LWR@depthnone`, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5898 \ifdefstring{\LWR@closedepth nineteen}{\LWR@depthnone}%
5899   {%
5900     {%
5901       \PackageError{lwarp}%
5902         {The document is nested too deeply for Lwarp}%
5903         {PLEASE inform the Lwarp maintainer!}%
5904     }%
5905 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5906 \newcommand*{\LWR@popclose}
5907 {%

```

```

5908 \global\let\LWR@closeone\LWR@closetwo%
5909 \global\let\LWR@closetwo\LWR@closethree%
5910 \global\let\LWR@closethree\LWR@closefour%
5911 \global\let\LWR@closefour\LWR@closefive%
5912 \global\let\LWR@closefive\LWR@closesix%
5913 \global\let\LWR@closesix\LWR@closeseven%
5914 \global\let\LWR@closeseven\LWR@closeeight%
5915 \global\let\LWR@closeeight\LWR@closenine%
5916 \global\let\LWR@closenine\LWR@closeten%
5917 \global\let\LWR@closeten\LWR@closeeleven%
5918 \global\let\LWR@closeeleven\LWR@closetwelve%
5919 \global\let\LWR@closetwelve\LWR@closethirteen%
5920 \global\let\LWR@closethirteen\LWR@closefourteen%
5921 \global\let\LWR@closefourteen\LWR@closefifteen%
5922 \global\let\LWR@closefifteen\LWR@closesixteen%
5923 \global\let\LWR@closesixteen\LWR@closeseventeen%
5924 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5925 \global\let\LWR@closeeighteen\LWR@closenineteen%
5926 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5927 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5928 \global\let\LWR@closedepththree\LWR@closedepthfour%
5929 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5930 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5931 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5932 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5933 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5934 \global\let\LWR@closedepthnine\LWR@closedephten%
5935 \global\let\LWR@closedephten\LWR@closedeptheleven%
5936 \global\let\LWR@closedeptheleven\LWR@closedephtwelve%
5937 \global\let\LWR@closedephtwelve\LWR@closedepththirteen%
5938 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5939 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5940 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5941 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5942 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5943 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5944 }

5945 \end{warpHTML}

```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray's` argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

**for HTML output:** 5946 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```
5947 \newbool{LWR@setexparray@doingparhooks}
5948
5949 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```
5950   \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
5951   \setbool{LWR@doingparhooks}{false}%
5952   \let\LWR@setexparray@par\par%
5953   \let\par\relax%
```

The name of the control sequence is the given name with the index appended.

```
5954   \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```
5955   \ifstrempy{#3}%
5956       {\csdef{\LWR@thisexparrayname}{}}%
5957       {\csdef{\LWR@thisexparrayname}{#3}}%
```

Restore the paragraph handling:

```
5958   \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
5959   \let\par\LWR@setexparray@par%
5960 }
```


`\LWR@getexparray {<name>} {<index>}`

```
5961 \newcommand*{\LWR@getexparray}[2]{%
5962   \@nameuse{#1#2}%
5963 }
```

```
5964 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5965 \begin{warpall}

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error  
Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5966 \newcommand{\StartDefiningTabulars}{%
5967   \LWR@traceinfo{StartDefiningTabulars}%
5968   \warpHTMLonly{catcode'\&=\active}%
5969 }
```

`\StopDefiningTabulars` Place after defining something with `&` in it.

```
5970 \newcommand{\StopDefiningTabulars}{%
5971   \LWR@traceinfo{StopDefiningTabulars}%
5972   \warpHTMLonly{\catcode'\&=4}%
5973 }
```

`LWR@mathmacro` (*bool*) True if currently defining math macros. Used to disable svg math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
5974 \newbool{LWR@mathmacro}
5975 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with `$` in it.

```
5976 \newcommand{\StartDefiningMath}{%
5977   \LWR@traceinfo{StartDefiningMath}%
5978   \warpHTMLonly{\catcode'\$=\active}%
5979 }
```

`\StopDefiningMath` Place after defining something with `$` in it.

```
5980 \newcommand{\StopDefiningMath}{%
5981   \LWR@traceinfo{StopDefiningMath}%
5982   \warpHTMLonly{\catcode'\$=3}% math shift
5983 }

5984 \end{warpall}
```

**for HTML output:** 5985 `\begin{warpHTML}`

A definition for `&` in case it is referred to after `\StartDefiningTabulars` but outside a tabular.

```
5986 \StartDefiningTabulars
5987 \protected\gdef&{%
5988   \PackageWarning{lwarp}{%
5989     An ampersand is being used inside a tabular\MessageBreak
5990   }%
5991 }%
5992 \StopDefiningTabulars

5993 \end{warpHTML}
```

## 44 Localizing dynamic math

Inline svg math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.



For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```
\xpatchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 5994 `\begin{warpall}`

`LWR@dynamicmath` (*bool*) True to mark inline math which is dynamic in nature, thus should not be hashed  
 Default: `false` for reuse.

```
5995 \newbool{LWR@dynamicmath}
5996 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5997 \newcommand{\inlinemathother}{%
5998 \LWR@traceinfo{inlinemathother}%
5999 \booltrue{LWR@dynamicmath}%
6000 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
6001 \newcommand{\inlinemathnormal}{%
6002 \LWR@traceinfo{inlinemathnormal}%
6003 \boolfalse{LWR@dynamicmath}%
6004 }
```

```
6005 \end{warpall}
```

## 45 HTML entities

**for HTML output:** 6006 `\begin{warpHTML}`

HTML Unicode entities:

```
6007 \let\LWR@origampersand\&
```

`\LWR@fontfortags`  $\langle macro name \rangle$   $\langle argument \rangle$

Forces roman TT font for HTML tags.

```
6008 \newrobustcmd*{\LWR@fontfortags}[2]{%
```

```

6009 \ifmmode%
6010     \PackageError{lwarp}%
6011     {%
6012         An HTML tag was generated inside math.\MessageBreak
6013         This should never occur.\MessageBreak
6014         Something is broken in Lwarp.\MessageBreak
6015         Enter 'h' for details%
6016     }%
6017     {(Using #1{#2}.)}%
6018 \else%

```

Used by ljtbook, platex, and related.

```

6019     \ifdef{\romanencoding}%
6020     {%
6021         \romanencoding{\encodingdefault}%
6022     }%
6023     {%

```

Used by babel:

```

6024         \ifdef{\latintext}
6025         {\latintext}
6026         {\fontencoding\encodingdefault}%
6027     }%
6028     \LWR@print@normalfont%
6029     \LWR@origttfamily%
6030 \fi%
6031 }

```

`\HTMLentity {<entitytag>}`

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6032 \newcommand*{\HTMLentity}[1]{%
6033 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
6034 \begingroup%
6035 \LWR@hook@processingtags%
6036 \LWR@fontfortags{HTMLentity}{\detokenize{#1}}%
6037 \protect\LWR@origampersand\LWR@isolate{#1};%
6038 \endgroup%
6039 % \LWR@traceinfo{HTMLentity done}%
6040 }

```

`\HTMLunicode {<hex_unicode>}`

```

6041 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{x#1}}

```

`\&`

```

6042 \renewrobustcmd*{\&}{\HTMLentity{amp}}

```

`\textless`

```

6043 \let\LWR@origtextless\textless
6044 \renewrobustcmd*{\textless}{\HTMLentity{lt}}

```

\textgreater

```
6045 \let\LWR@origtextgreater\textgreater
6046 \renewrobustcmd*\textgreater{\HTMLentity{gt}}

6047 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to \HomeHTMLFilename.html. The filenames of additional sections start with \HTMLFilename, to which is appended a section number or a simplified section name, depending on FileSectionNames.

**for HTML & PRINT:** 6048 \begin{warpall}

\BaseJobname The \jobname of the printed version, even if currently compiling the HTML version. I.e. this is the \jobname without \_html appended. This is used to set \HomeHTMLFilename if the user did not provide one.

```
6049 \providecommand*\BaseJobname{\jobname}
```

\HTMLFilename The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

```
6050 \providecommand*\HTMLFilename{}
```

\HomeHTMLFilename The filename of the home page, defaulting to the \BaseJobname. See section 7.6.1.

```
6051 \providecommand*\HomeHTMLFilename{\BaseJobname}
```

\SetHTMLFileNumber {<number>}

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
6052 \newcommand*\SetHTMLFileNumber[1]{%
6053   \setcounter{LWR@htmlfilenumber}{#1}%
6054 }
```

FileSectionNames (*bool*) Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
6055 \newbool{FileSectionNames}
6056 \booltrue{FileSectionNames}
```

```
6057 \end{warpall}
```

**for HTML output:** 6058 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
6059 \newcounter{LWR@HTMLpagenum}
6060 \setcounter{LWR@HTMLpagenum}{0}
```

`LWR@htmlseqfilenumber` (*Ctr*) A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike `\LWR@htmlfilenumber`, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called `\BaseJobname-autofile-*`, and the last page is also labelled `\BaseJobname-autofile-last`.

```
6061 \newcounter{LWR@htmlseqfilenumber}
6062 \setcounter{LWR@htmlseqfilenumber}{0}
```

`LWR@setseqfilelabel` (*bool*) At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
6063 \newbool{LWR@setseqfilelabel}
6064 \setbool{LWR@setseqfilelabel}{false}
```

`LWR@htmlfilenumber` (*Ctr*) Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use `\SetHTMLFileNumber` to create groups of numbered nodes.

```
6065 \newcounter{LWR@htmlfilenumber}
6066 \setcounter{LWR@htmlfilenumber}{0}
```

`\LWR@htmlsectionfilename`  $\{ \langle \textit{htmlfilenumber or name} \rangle \}$

Prints the filename for a given section: `\HTMLFilename{ }filenumber/name.html`

```
6067 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6068 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
6069 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6070 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
6071 % \LWR@traceinfo{about to assign temp}%
6072 \LWR@sanitize{#1}%
6073 \LWR@traceinfo{about to compare with ??}%
6074 \ifdefstring{\LWR@sanitized}{??}
6075   {\LWR@traceinfo{found ??}}%
6076   {\LWR@traceinfo{not found ??}}%
6077 \LWR@traceinfo{about to compare with zero or empty}%
6078 \ifboolexpr{
6079   test {\ifdefstring{\LWR@sanitized}{0}} or
6080   test {\ifdefstring{\LWR@sanitized}{}} or
6081   test {\ifdefstring{\LWR@sanitized}{??}}
6082 }
6083 {%
```

```

6084 \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6085 \HomeHTMLFilename.html%
6086 }%

```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

6087 {%
6088 \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
6089 \ifboolexpr{
6090     test{\ifdefvoid{\HTMLFilename}} and
6091     (
6092         test{\ifdefstring{\LWR@sanitized}{Index}} or
6093         test{\ifdefstring{\LWR@sanitized}{index}}
6094     )
6095 }%
6096 {%
6097 \LWR@traceinfo{Adding a zero to the index filename.}%
6098 \LWR@sanitized-0.html%
6099 }%

```

Otherwise, create a filename with the chosen prefix:

```

6100 {%
6101 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6102 }%
6103 }%
6104 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6105 \endgroup%
6106 }

```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```

6107 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6108 \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

`\LWR@nullfonts` to allow math in a section name.

```

6109 \begingroup%
6110 \LWR@nullfonts%
6111 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6112 \endgroup%
6113 \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6114 }

6115 \end{warpHTML}

```

## 47 Homepage link

**for HTML & PRINT:** 6116 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```

6117 \newcommand{\linkhomename}{Home}

```

```
6118 \end{warpall}
```

**for HTML output:** 6119 \begin{warpHTML}

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
6120 \newcommand*{\LinkHome}{%
6121   \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
6122 }
```

```
6123 \end{warpHTML}
```

**for PRINT output:** 6124 \begin{warpprint}

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```
6125 \AtBeginDocument{
6126 \ifundefined{hyperref}{
6127   \newcommand*{\LinkHome}{%
6128     \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6129   }
6130 }{
6131   \newcommand*{\LinkHome}{%
6132     \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6133   }
6134 }
6135 }
6136
6137 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}
```

```
6138 \end{warpprint}
```

**for HTML output:** 6139 \begin{warpHTML}

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```
6140 \newcommand*{\LWR@topnavigation}{%
6141   \LWR@htmlElementclassline{nav}{topnavigation}{\LinkHome}
6142 }
```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```
6143 \newcommand*{\LWR@botnavigation}{%
6144   \LWR@htmlElementclassline{nav}{botnavigation}{\LinkHome}
6145 }
```

```
6146 \end{warpHTML}
```

## 48 Previous/next navigation links

**for HTML & PRINT:** 6147 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

```
6148 \newcommand*{\linkpreviousname}{Previous}
```

\linknextname What to call the link to the next web page.

```
6149 \newcommand*{\linknextname}{Next}
```

```
6150 \end{warpall}
```

**for PRINT output:** 6151 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

```
6152 \newcommand*{\LinkPrevious}{}
```

\LinkNext Creates a link to the next web page if there is one.

```
6153 \newcommand*{\LinkNext}{}
```

```
6154 \end{warpprint}
```

**for HTML output:** 6155 \begin{warpHTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*

```
6156 \newcommand*{\LinkPrevious}{%
6157   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}}{}{%
6158     \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6159     \LWR@subhyperrefclass{%
6160       \LWR@htmlrefsectionfilename{%
6161         \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6162       }%
6163     }{\linkpreviousname}{linkhome}%
6164   }%
6165 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-  
and the last is the label \Basejobname-autofile-last

```
6166 \newcommand*{\LinkNext}{%
6167   \ifcsdef{r@\BaseJobname-autofile-last@lwarp}}{%
6168     \edef\LWR@tempone{%
6169       \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
6170     }%
6171 }
```

```

6171     \edef\LWR@temptwo{%
6172         \LWR@htmlfileref{\BaseJobname-autofile-last}%
6173     }%
6174     \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
6175         \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6176         \LWR@subhyperrefclass{%
6177             \LWR@htmlrefsectionfilename{%
6178                 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6179             }%
6180         }{\linknextname}{linkhome}%
6181     }%
6182 }{}%
6183 }

6184 \end{warpHTML}

```

## 49 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. `\LWR@startpars` is used before printing the stack, so that `\LWRPrintStack` may be called from anywhere in the normal text flow.

**for HTML output:** 6185 `\begin{warpHTML}`

`\LWRPrintStack` Prints the closedepth stack.

```

6186 \newcommand*{\LWR@subprintstack}{
6187 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6188 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6189 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
6190 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
6191 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6192 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6193 \LWR@closedepthnineteen\
6194 }
6195
6196 \newcommand*{\LWRPrintStack}{
6197 \LWR@startpars
6198 \LWR@subprintstack
6199 }

6200 \end{warpHTML}

```

**for PRINT output:** 6201 `\begin{warpprint}`

```

6202 \newcommand*{\LWRPrintStack}{}

6203 \end{warpprint}

```

## 50 Closing stack levels

**for HTML output:** 6204 `\begin{warpHTML}`



Close one nested level:

```
6205 \newcommand*{\LWR@closeoneprevious}{%
6206
6207 \LWR@closeone
6208
6209 \LWR@popclose
6210 }
```

`\LWR@closeprevious`  $\langle \textit{sectintype} \rangle$  Close everything up to the given depth:

```
6211 \newcommand*{\LWR@closeprevious}[1]{%
6212 \LWR@traceinfo{%
6213   \LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
6214   depths are \LWR@subprintstack%
6215 }%
```

Close any pending paragraph:

```
6216 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
6217 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}>}{\csuse{\LWR@depth#1}}}%
6218 {%
6219   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6220   \LWR@closeoneprevious%
6221 }%
6222 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}={}{\csuse{\LWR@depth#1}}}}%
6223 {%
6224   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6225   \LWR@closeoneprevious%
6226 }{%}%
6227 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
6228 }

6229 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 6230 `\begin{warpHTML}`

`\LWR@forcenewpage` New PDF page a before major environment.

This is used just before major environments, such as `verse`. Reduces the chance of an environment overflowing the HTML PDF output page.

```
6231 \newcommand{\LWR@forcenewpage}{%
6232 \LWR@traceinfo{\LWR@forcenewpage}%
6233 \ifinner\else%
6234   \LWR@traceinfo{\LWR@forcenewpage A}%
6235   \LWR@stoppars%
6236   \LWR@traceinfo{\LWR@forcenewpage B}%
6237   \LWR@maybe@orignewpage%
```

```

6238   \LWR@traceinfo{LWR@forcenewpage C}%
6239   \LWR@startpars%
6240 \fi%
6241 \LWR@traceinfo{LWR@forcenewpage done}%
6242 }

```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle {<style>}`

```
6243 \renewcommand*{\pagestyle}[1]{}
```

`\thispagestyle {<style>}`

```
6244 \renewcommand*{\thispagestyle}[1]{}
```

`\markboth {<left>} {<right>}`

```
6245 \renewcommand*{\markboth}[2]{}
```

`\markright {<right>}`

```
6246 \renewcommand*{\markright}[1]{}
```

`\raggedbottom`

```
6247 \renewcommand*{\raggedbottom}{}
```

`\flushbottom`

```
6248 \renewcommand*{\flushbottom}{}
```

`\sloppy`

```
6249 \renewcommand*{\sloppy}{}
```

`\fussy`

```
6250 \renewcommand*{\fussy}{}
```

`\pagenumbering * {<commands>}`

```
6251 \RenewDocumentCommand{\pagenumbering}{s m}{}
```

```
6252 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

**for HTML output:** 6253 `\begin{warpHTML}`

## 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

6254 \newcommand*\LWR@tagtitle}{h1}
6255 \newcommand*\LWR@tagtitleend}{/h1}
6256 \newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
6257 \newcommand*\LWR@tagbookend}{/div}
6258 \newcommand*\LWR@tagpart}{h2}
6259 \newcommand*\LWR@tagpartend}{/h2}
6260 \newcommand*\LWR@tagchapter}{h3}
6261 \newcommand*\LWR@tagchapterend}{/h3}
6262 \newcommand*\LWR@tagsection}{h4}
6263 \newcommand*\LWR@tagsectionend}{/h4}
6264 \newcommand*\LWR@tagsubsection}{h5}
6265 \newcommand*\LWR@tagsubsectionend}{/h5}
6266 \newcommand*\LWR@tagsubsubsection}{h6}
6267 \newcommand*\LWR@tagsubsubsectionend}{/h6}
6268 \newcommand*\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6269 \newcommand*\LWR@tagparagraphend}{/span}
6270 \newcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6271 \newcommand*\LWR@tagsubparagraphend}{/span}
6272
6273 \newcommand*\LWR@tagregularparagraph}{p}

```

## 52.2 Hook while processing tags

`\LWR@hook@processingtags` This is used to disable special text processing while processing HTML tags. Special processing includes that done by babel-french, luavina, xe<sub>l</sub>at<sub>e</sub>x.  
(Hook) [lwarp]

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```

6274 \newcommand*\LWR@hook@processingtags{}

```

## 52.3 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf<sub>l</sub>at<sub>e</sub>x* and *xe<sub>l</sub>at<sub>e</sub>x*.

(Emulates or patches code by DANIEL FLIPO.)

```

6275 \providecommand*\LWR@FBcancel{}
6276
6277 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

6278 \@ifundefined{NoAutoSpacing}%
6279   {}%
6280   {%
6281     \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6282     \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6283   }%
6284
6285 \@ifundefined{frenchbsetup}%

```

```

6286 {}%
6287 {%
6288   \frenchbsetup{FrenchFootnotes=false}%

6289 %
6290   \renewrobustcmd*{\FBcolonspace}{%
6291     \begingroup%
6292     \LWR@hook@processingtags%
6293     \LWR@origampersand{ }nbsp;%
6294     \endgroup%
6295   }%
6296   \renewrobustcmd*{\FBthinspace}{%
6297     \begingroup%
6298     \LWR@hook@processingtags%
6299     \LWR@origampersand\LWR@origpound{x202f};% \,
6300     \endgroup%
6301   }%
6302   \renewrobustcmd*{\FBguillspace}{%
6303     \begingroup%
6304     \LWR@hook@processingtags%
6305     \LWR@origampersand{ }nbsp;% ~, for \og xyz \fg{
6306     \endgroup%
6307   }%
6308   \DeclareDocumentCommand{\FBmedkern}{}{%
6309     \begingroup%
6310     \LWR@hook@processingtags%
6311     \LWR@origampersand\LWR@origpound{x202f};% \,
6312     \endgroup%
6313   }%
6314   \DeclareDocumentCommand{\FBthickkern}{}{%
6315     \begingroup%
6316     \LWR@hook@processingtags%
6317     \LWR@origampersand{ }nbsp;% ~
6318     \endgroup%
6319   }%
6320   \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6321   \ifFBunicode%
6322   \else%
6323     \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6324     \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6325   \fi%
6326 }%
6327 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6328 \newcommand*{\LWR@indentHTML}{%
6329   \LWR@orignewline\LWR@origrule{2em}{0pt}%
6330 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

6331 \newcommand*{\LWR@indentHTMLtwo}{%
6332   \LWR@orignewline\LWR@origrule{4em}{0pt}%
6333 }

```

## 52.5 HTML tags

`\LWR@htmltagc` `{<tag>}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6334 \newcommand*{\LWR@htmltagc}[1]{%
6335   \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6336   \begingroup%
6337   \LWR@hook@processingtags%
6338   \LWR@fontfortags{\LWR@htmltagc}{\detokenize{#1}}%
6339   \protect\LWR@origtextless%
6340   \LWR@isolate{#1}%
6341   \protect\LWR@origtextgreater%
6342   \endgroup%
6343 }

```

`\LWR@spanwarnformat` `{<object>}`

Warns if the given object is used inside a span.

```

6344 \newcommand*{\LWR@spanwarnformat}[1]{%
6345   \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6346     \PackageWarning{\lwarp}{%
6347       A #1 is being used inside a span.\MessageBreak
6348       Formatting may be lost,%
6349     }%
6350   }{%
6351 }

```

`\LWR@spanwarninvalid` `{<object>}`



Warns if the given object is used inside a span.

```

6352 \newcommand*{\LWR@spanwarninvalid}[1]{%
6353   \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6354     \PackageWarning{\lwarp}{%
6355       A #1 is being used inside a span.\MessageBreak
6356       This generates invalid HTML,%
6357     }%
6358   }{%
6359 }

```

`LWR@nestspan` (*env.*) Disable minipage, `\parbox`, and HTML `<div>`s inside a `<span>`.

-  `\begin{\LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
-  `\end{\LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```

6360 \newcommand*{\LWR@nestspanitem}{%
6361   \if@newlist\else{
6362     \LWR@htmltagc{br /}%
6363     \LWR@orignewline%
6364   }\fi%
6365   \LWR@origitem%
6366 }
6367
6368 \newenvironment*{\LWR@nestspan}
6369 {%
6370   \LWR@traceinfo{\LWR@nestspan starting}%
6371   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6372   {%
6373     \LWR@traceinfo{\LWR@nestspan: inside a lateximage}%
6374   }%
6375   {% not in a lateximage
6376     \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
6377     \addtocounter{\LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6378   \RenewDocumentEnvironment{minipage}{0{t} o 0{t} m}%
6379     {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6380     {}%
6381   \RenewDocumentEnvironment{BlockClass}{o m}%
6382     {\LWR@spanwarnformat{multi-paragraph object}}%
6383     {}%
6384   \RenewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){} m}%
6385     {\LWR@spanwarnformat{multi-paragraph object}}%
6386     {}%
6387   \renewcommand{\BlockClassSingle}[2]{%
6388     {\LWR@spanwarnformat{multi-paragraph object}}%
6389     ##2%
6390   }%
6391   \renewcommand{\LWR@forcenewpage}{}%
6392   \renewcommand{\LWR@liststart}{\LetLtxMacro\item\LWR@nestspanitem}%
6393   \renewcommand{\LWR@listend}{\leavevmode}%
6394   \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6395   \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6396   }% not in a lateximage
6397   \LWR@traceinfo{\LWR@nestspan starting: done}%
6398 }% starting env
6399 {% ending env
6400   \LWR@traceinfo{\LWR@nestspan ending}%
6401   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6402   {}%
6403   {\addtocounter{\LWR@spandepth}{-1}}%
6404   \LWR@traceinfo{\LWR@nestspan ending: done}%
6405 }

```

`\LWR@htmlspan {<tag>} {<text>}`



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6406 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6407   \LWR@ensuredoingapar%
6408   \LWR@htmltagc{#1}%

```

```

6409 \begin{LWR@nestspan}%
6410 #2%
6411 \LWR@htmltagc{/#1}%
6412 \end{LWR@nestspan}%
6413 }

```

`\LWR@htmlspanclass` [*style*] (*aria role*) {*class*} {*text*}

```

6414 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6415 \LWR@traceinfo{LWR@htmlspanclass|#1|#2|#3|}%
6416 \LWR@ensuredoingapar%
6417 \ifblank{#2}%
6418 { \LWR@subhtmlclass{span}[#1]{#3}}%
6419 { \LWR@subhtmlclass{span}[#1](#2){#3}}%
6420 \begin{LWR@nestspan}%
6421 #4%
6422 \LWR@htmltagc{/span}%
6423 \LWR@traceinfo{LWR@htmlspanclass done}%
6424 \end{LWR@nestspan}%
6425 }

```

`\LWR@htmltag` {*tag*}

Print an HTML tag: <tag>

```

6426 \newcommand*{\LWR@htmltag}[1]{%
6427 \LWR@htmltagc{#1}%
6428 }

```

## 52.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmlclosecomment
6429 \newcommand*{\LWR@htmlopencomment}{%
6430 % \LWR@traceinfo{LWR@htmlopencomment}%
6431 \begingroup%
6432 \LWR@hook@processingtags%
6433 \LWR@fontfortags{LWR@htmlopencomment}{}%
6434 \LWR@print@box{\LWR@origtextless{}}!-\/-%
6435 \endgroup%
6436 }
6437
6438 \newcommand*{\LWR@htmlclosecomment}{%
6439 % \LWR@traceinfo{LWR@htmlclosecomment}%
6440 \begingroup%
6441 \LWR@hook@processingtags%
6442 \LWR@fontfortags{LWR@htmlclosecomment}{}%
6443 \LWR@print@box{-\/-\LWR@origtextgreater{}}%
6444 \endgroup%
6445 }

```

`\LWR@htmlcomment` {*comment*}

```

6446 \newcommand{\LWR@htmlcomment}[1]{%
6447   \ifmmode%
6448   \else%
6449     \LWR@htmlcomment{}%
6450     {%
6451       \LWR@print@normalfont%
6452       \LWR@origttfamily% break ligatures
6453       #1%
6454     }%
6455     \LWR@htmlclosecomment{}%
6456   \fi%
6457 }

```

`\LWR@htmlblockcomment {<comment>}`

```

6458 \newcommand{\LWR@htmlblockcomment}[1]
6459   {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

```

`\LWR@htmlblocktag {<tag>}` print a stand-alone HTML tag

```

6460 \newcommand*\LWR@htmlblocktag}[1]{%
6461   \LWR@stoppars%
6462   \LWR@htmltag{#1}%
6463   \LWR@startpars%
6464 }

```

## 52.7 Div class and element class

`\LWR@subhtmlElementclass {<element>} [<style>] (<aria role>) {<class>}`

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of `"` provides improved compatibility with xeCJK.

```

6465 \NewDocumentCommand{\LWR@subhtmlElementclass}{m O{} D(){} m}{%
6466   \LWR@traceinfo{\LWR@subhtmlElementclass !#1!#2!#3!#4!}%
6467   \ifblank{#2}%
6468   {% empty style
6469     \LWR@htmltag{%
6470       #1%
6471       \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}% spaces
6472       \ifblank{#4}{\class=\textquotedbl#4\textquotedbl}% spaces
6473     }%
6474   }%
6475   {% non-empty style
6476     \LWR@htmltag{%
6477       #1\LWR@indentHTML%
6478       \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6479       \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6480       style=\textquotedbl#2\textquotedbl\LWR@origineline%
6481     }%
6482   }%
6483   \LWR@traceinfo{\LWR@subhtmlElementclass done}%
6484 }

```



`\LWR@htmlElementclass` {<*element*>} [<*style*>] {<*class*>}

```
6485 \NewDocumentCommand{\LWR@htmlElementclass}{m o D(){} m}{%
6486   \LWR@stoppars%
6487   \LWR@forceemptyline%
6488   \ifblank{#3}%
6489     {\LWR@subhtmlElementclass{#1}[#2]{#4}}%
6490     {\LWR@subhtmlElementclass{#1}[#2](#3){#4}}%
6491   \LWR@startpars%
6492 }
```

`\LWR@htmlElementclassend` {<*element*>} {<*class*>}

```
6493 \newcommand*{\LWR@htmlElementclassend}[2]{%
6494   \LWR@stoppars%
6495   \LWR@htmltag{/#1}%
6496   \ifbool{HTMLDebugComments}{%
6497     \LWR@htmlcomment{End of #1 ‘#2’}%
6498   }{}%
6499   \LWR@startpars%
6500 }
```

`\LWR@htmlDivclass` [<*style*>] (<*aria role*>) {<*class*>}

```
6501 \NewDocumentCommand{\LWR@htmlDivclass}{o D(){} m}{%
6502   \ifblank{#2}
6503     {\LWR@htmlElementclass{div}[#1]{#3}}%
6504     {\LWR@htmlElementclass{div}[#1](#2){#3}}%
6505 }
```

`\LWR@htmlDivclassend` {<*class*>}

```
6506 \newcommand*{\LWR@htmlDivclassend}[1]{%
6507   \LWR@htmlElementclassend{div}{#1}%
6508 }
```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

`\LWR@htmlElementclassline` {<*element*>} [<*style*>] {<*class*>} {<*text*>}

```
6509 \NewDocumentCommand{\LWR@htmlElementclassline}{m o m +m}{%
6510   \LWR@stoppars
6511   \LWR@forceemptyline%
6512   \LWR@subhtmlElementclass{#1}[#2]{#3}%
6513   #4%
6514   \LWR@htmltag{/#1}
6515   \LWR@startpars
6516 }
```

## 52.9 HTML5 semantic elements

`\LWR@htmlElement`  $\langle element \rangle$

```
6517 \newcommand*\LWR@htmlElement}[1]{%
6518   \LWR@htmlBlocktag{#1}
6519 }
```

`\LWR@htmlElementend`  $\langle element \rangle$

```
6520 \newcommand*\LWR@htmlElementend}[1]{%
6521   \LWR@stoppars
6522   \LWR@htmltag{/#1}
6523   \LWR@startpars
6524 }
6525
6526 \end{warpHTML}
```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 95.

`BlockClass` (*env.*) [ $\langle style \rangle$ ] ( $\langle aria\ role \rangle$ )  $\langle class \rangle$  High-level interface for `<div>` classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for HTML & PRINT:** 6527 `\begin{warpall}`  
6528 `\NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}`  
6529 `\end{warpall}`

**for HTML output:** 6530 `\begin{warpHTML}`  
6531  
6532 `\NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%`  
6533 `{\LWR@htmldivclass[#1](#2){#3}}%`  
6534 `{\LWR@htmldivclassend{#3}}`  
6535  
6536 `\LWR@formattedenv{BlockClass}`  
6537 `\end{warpHTML}`

`\BlockClassSingle`  $\langle class \rangle$   $\langle text \rangle$  A single-line `<div>`, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6538 `\begin{warpall}`  
6539 `\newcommand{\BlockClassSingle}[2]{#2}`  
6540 `\end{warpall}`

**for HTML output:** 6541 `\begin{warpHTML}`  
6542 `\newcommand{\LWR@HTML@BlockClassSingle}[2]{%`  
6543  `\LWR@htmlElementclassline{div}{#1}{#2}%`  
6544 `}`

```
6545
6546 \LWR@formatted{BlockClassSingle}
6547 \end{warpHTML}
```

`\InlineClass (<WP style>) [<style>] {<class>} {<text>}`

High-level interface for inline span classes.

`(<WP style>)` is CSS styling to add when formatting for a word processor import.

`[<style>]` is the CSS styling to add when not formatting for a word processor.

**for HTML & PRINT:** 6548 \begin{warpall}  
6549 \NewDocumentCommand{\InlineClass}{D{()}{ } o m +m}{#4}%  
6550 \end{warpall}

**for HTML output:** 6551 \begin{warpHTML}  
6552 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{ } o m +m}{%  
6553 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%  
6554 \ifbool{FormatWP}{%  
6555 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%  
6556 \LWR@htmlspanclass[#1]{#3}{#4}%  
6557 }{%  
6558 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%  
6559 \LWR@htmlspanclass[#2]{#3}{#4}%  
6560 }%  
6561 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%  
6562 }  
6563  
6564 \LWR@formatted{InlineClass}  
6565 \end{warpHTML}

`LWR@BlockClassWP (env.) {<WPstyle>} {<HTMLstyle>} (<aria role>) {<class>}` Low-level interface for `<div>` classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

**for HTML & PRINT:** 6566 \begin{warpall}  
6567 \NewDocumentEnvironment{LWR@BlockClassWP}{m m D(){ } m}{ }  
6568 \end{warpall}

**for HTML output:** 6569 \begin{warpHTML}  
6570 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m D(){ } m}%  
6571 {%  
6572 \LWR@stoppars%  
6573 \ifbool{FormatWP}%  
6574 {%  
6575 \addtocounter{LWR@thisautoidWP}{1}%  
  
6576 \LWR@htmltag{%  
6577 div class=\textquotedbl#4\textquotedbl\ % space  
6578 id=\textquotedbl%  
6579 \LWR@print@embox{autoidWP-\arabic{LWR@thisautoidWP}}%  
6580 \textquotedbl%  
6581 \ifblank{#3}{ }{ role=\textquotedbl#3\textquotedbl}%  
6582 \ifblank{#1}{ }{ style=\textquotedbl#1\textquotedbl}%  
6583 }%  
}

```

6584     }% FormatWP
6585     {% not FormatWP
6586         \LWR@htmltag{%
6587             div class=\textquotedbl#4\textquotedbl%
6588                 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}%
6589                 \ifblank{#2}{\style=\textquotedbl#2\textquotedbl}%
6590         }%
6591     }% not FormatWP
6592     \LWR@startpars%
6593 }
6594 {\LWR@htmldivclassend{#4}}
6595
6596 \LWR@formattedenv{\LWR@BlockClassWP}
6597 \end{warpHTML}

```

## 52.11 Closing HTML tags

for HTML output: 6598 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6599 \newcommand*\LWR@printclosebook}
6600     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6601 \newcommand*\LWR@printclosepart}
6602     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6603 \newcommand*\LWR@printclosechapter}
6604     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6605 \newcommand*\LWR@printclosesection}
6606     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6607 \newcommand*\LWR@printclosesubsection}
6608     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6609 \newcommand*\LWR@printclosesubsubsection}
6610     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6611 \newcommand*\LWR@printcloseparagraph}
6612     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6613 \newcommand*\LWR@printclosesubparagraph}
6614     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6615 \newcommand*\LWR@printcloselistitem}
6616     {\LWR@htmltag{/li}}
6617 \newcommand*\LWR@printclosedescitem}
6618     {\LWR@htmltag{/dd}}
6619 \newcommand*\LWR@printcloseitemize}
6620     {\LWR@htmltag{/ul}}
6621 \newcommand*\LWR@printcloseenumerate}
6622     {\LWR@htmltag{/ol}}
6623 \newcommand*\LWR@printclosedescription}
6624     {\LWR@htmltag{/dl}}
6625 \end{warpHTML}

```

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to manage tag creation.

**for HTML output:** 6626 `\begin{warpHTML}`

`LWR@spandepth` (*Ctrl*) Do not create paragraph tags inside of an HTML span.

```
6627 \newcounter{LWR@spandepth}
6628 \setcounter{LWR@spandepth}{0}
```

`LWR@doingparhooks` (*bool*) Tells whether the `lwarp` paragraph hooks are to be active.

```
6629 \newbool{LWR@doingparhooks}
6630 \boolfalse{LWR@doingparhooks}
```

`LWR@in@multirow@par` (*bool*) Tells whether to generate break instead of paragraph tags inside a `\multirow`.

```
6631 \newbool{LWR@in@multirow@par}
6632 \boolfalse{LWR@in@multirow@par}
```

`LWR@starting@fancybox` (*bool*) Suppresses `<br>` if beginning a `fancybox` environment.

```
6633 \newbool{LWR@starting@fancybox}
6634 \boolfalse{LWR@starting@fancybox}
```

`LWR@doingstartpars` (*bool*) Tells whether paragraphs may be generated.

```
6635 \newbool{LWR@doingstartpars}
6636 \boolfalse{LWR@doingstartpars}
```

`LWR@doingapar` (*bool*) Tells whether have actually generated and are currently processing paragraph text.

```
6637 \newbool{LWR@doingapar}
6638 \global\boolfalse{LWR@doingapar}
```

`LWR@algocf@dopars` (*bool*) Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6639 \newbool{LWR@algocf@dopars}
6640 \boolfalse{LWR@algocf@dopars}
```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6641 \def\PN@parnotes@auto{}
```

`\LWR@ensuredoingapar` These were different in older versions of `lwarp`, but are now the same thing.

```
\LWR@openparagraph
6642 \newcommand*{\LWR@openparagraph}
6643 {%
```

See if paragraph handling is enabled:

```
6644 \ifboolexpr{
6645     bool{\LWR@doingparhooks} and
6646     bool{\LWR@doingstartpars}
6647 }%
6648 {% handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6649 \ifboolexpr{
6650     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6651     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6652 }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```
6653 {}% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6654 {% yes nest par tags
6655     \ifbool{\LWR@doingapar}}{%
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6656 \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6657 \global\booltrue{\LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing `algorithm2e` handling instead:

```
6658 \ifbool{\LWR@algocf@dopars}}{%
6659     \ifbool{\LWR@in@multirow@par}%
6660     {}%
6661     {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6662     }%
6663 }%
6664 }% end of yes nest par tags
6665 }% end of handling pars
6666 {}% not handling pars
6667 }
6668
6669 \let\LWR@ensuredoingapar\LWR@openparagraph
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```

6670 \newcommand*{\LWR@closeparagraph@br}
6671 {%
6672   \ifboolexpr{
6673     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6674     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6675     not bool {LWR@starting@fancybox} and
6676     not bool {LWR@intabularmetadata} or
6677     bool {LWR@in@multirow@par}
6678   }%
6679   {\unskip\LWR@htmltagc{br /}}%
6680   }%
6681 }

```

`\LWR@closeparagraph`

```

6682 \newcommand*{\LWR@closeparagraph}
6683 {%
6684 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6685   \ifbool{LWR@doingparhooks}{%
6686     \ifbool{LWR@doingapar}%

```

If currently in paragraph mode:

```

6687     {% handling pars

```

See if already started a lateximage or a `<span>`:

```

6688     \ifboolexpr{
6689       test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6690       test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} or
6691       bool{LWR@in@multirow@par}
6692     }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6693     {% no nested par tags
6694       \LWR@closeparagraph@br%
6695     }% no nested par tags

```

If have not already started a lateximage or a `<span>`:

```

6696     {% yes nest par tags

```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```

6697       \@hspacer{\fill}% \hspace*{\fill}
6698       \leavevmode\LWR@orignewline%
6699       \LWR@htmltagc{/\LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```
6700          \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6701          \global\boolfalse{LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6702          \PN@parnotes@auto%
```

```
6703          }% end of yes nest par tags
```

```
6704          }% LWR@doingapar: end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6705          {% not LWR@doingapar: not handling pars
```

```
6706          \LWR@closeparagraph@br%
```

```
6707          }% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for `\multicolumn`.

```
6708          \ifboolexpr{%
6709              not bool {LWR@doingapar} and
6710              test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6711              test {
6712                  \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6713              } and
6714              bool {LWR@intabularmetadata} and
6715              not bool {LWR@tableparcell} and
6716              test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6717          }%
6718          {\LWR@getmynexttoken}%
6719          }%
6720          }% LWR@doingparhooks
6721          }% not LWR@doingparhooks
6722          % Do not place anything here, due to the above \LWR@getmynexttoken.
6723          }
```

## 53.1 Paragraph Hooks

`para/begin (Hook)` [LaTeX]

```
6724 \AddToHook{para/begin}[lwarp]{\LWR@openparagraph}
```

`para/end (Hook)` [LaTeX]

```
6725 \AddToHook{para/end}[lwarp]{\LWR@closeparagraph}
```

```
6726 \end{warpHTML}
```



## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to generate the opening and closing paragraph tags.

**for HTML output:** 6727 `\begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6728 \newcommand*{\LWR@startpars}%
6729 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6730   \ifboolexpr{
6731     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6732     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6733   }%
6734   {% nesting
6735     {% not nesting
```

The L<sup>A</sup>T<sub>E</sub>X paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
6736   \ifboolexpr {bool{LWR@doingparhooks} and bool{LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
6737   }%
```

If not currently in paragraph mode:

```
6738   {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
6739   \global\booltrue{LWR@doingstartpars}%
```

No `<par>` tag yet to undo:

```
6740   \global\boolfalse{LWR@doingapar}%
6741   }% not nesting
6742 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6743 \newcommand*{\LWR@stoppars}%
6744 {%
```

Ignore if inside a lateximage or <span>:

```
6745 \ifboolexpr{
6746     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6747     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6748 }%
6749     {}% nesting
6750     {% not nesting
```

See if currently handling HTML paragraphs:

```
6751 \ifboolexpr{bool{LWR@doingparhooks} and bool{LWR@doingapar}}%
```

if currently in an HTML paragraph:

```
6752     {%
```

Print a closing tag:

```
6753 \leavevmode\LWR@orignewline%
6754 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6755 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6756 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6757 \global\boolfalse{LWR@minipagethispar}%
6758 }%
```

If was not in an HTML paragraph:

```
6759     {}%
```

No longer in paragraph mode:

```
6760 \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6761 \global\boolfalse{LWR@doingapar}%
6762     }% not nesting
6763 }
```

```
6764 \end{warpHTML}
```

## 55 Indentfirst

`indentfirst` (*Pkg*) `indentfirst` redefines `\@afterindentfalse` to be `\@afterindenttrue`. This is reversed `\AtBeginDocument` here.

**for HTML output:** `6765 \begin{warpHTML}`

```

6766 \AtBeginDocument{
6767   \def\@afterindentfalse{\let\if@afterindent\iffalse}
6768   \@afterindentfalse
6769 }
6770 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6771 \end{warpHTML}

```

## 56 Page headers and footers

**for HTML & PRINT:** 6772 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```

6773 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6774 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6775 \newcommand{\LWR@pagetop}{} % for all other pages
6776 \newcommand{\LWR@pagebottom}{}

```

\HTMLFirstPageTop {*<text and logos>*}

```

6777 \newcommand{\HTMLFirstPageTop}[1]{%
6778   \renewcommand{\LWR@firstpagetop}{#1}%
6779 }

```

\HTMLFirstPageBottom {*<text and logos>*}

```

6780 \newcommand{\HTMLFirstPageBottom}[1]{%
6781   \renewcommand{\LWR@firstpagebottom}{#1}%
6782 }

```

\HTMLPageTop {*<text and logos>*}

```

6783 \newcommand{\HTMLPageTop}[1]{%
6784   \renewcommand{\LWR@pagetop}{#1}%
6785 }

```

\HTMLPageBottom {*<text and logos>*}

```

6786 \newcommand{\HTMLPageBottom}[1]{%
6787   \renewcommand{\LWR@pagebottom}{#1}%
6788 }

```

```

6789 \end{warpall}

```

## 57 CSS

**for HTML output:** 6790 \begin{warpHTML}

`\LWR@currentcss` The css filename to use. This may be changed mid-document using `\CSSFilename`, allowing different css files to be used for different sections of the document.

```
6791 \newcommand*\LWR@currentcss}{lwarp.css}
```

`\CSSFilename`  $\langle\textit{new-css-filename.css}\rangle$  Assigns the css file to be used by the following HTML pages.

```
6792 \newcommand*\CSSFilename}[1]{%
6793   \renewcommand*\LWR@currentcss}{#1}%
6794   \@onelevel@sanitize\LWR@currentcss%
6795 }
6796
6797 \end{warpHTML}
```

**for PRINT output:** 6798 `\begin{warpprint}`  
6799 `\newcommand*\CSSFilename}[1]{}`  
6800 `\end{warpprint}`

## 58 MATHJAX script

**for HTML output:** 6801 `\begin{warpHTML}`

Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6802 \newcommand*\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename`  $\langle\textit{filename}\rangle$  Assigns the MATHJAX script file to be used by the following HTML pages.

```
6803 \newcommand*\MathJaxFilename}[1]{%
6804   \renewcommand*\LWR@mathjaxfilename}{#1}%
6805   \@onelevel@sanitize\LWR@mathjaxfilename%
6806 }
6807
6808 \end{warpHTML}
```

**for PRINT output:** 6809 `\begin{warpprint}`  
6810 `\newcommand*\MathJaxFilename}[1]{}`  
6811 `\end{warpprint}`

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6812 `\begin{warpHTML}`

`\title`  $\langle title \rangle$  Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6813 \let\LWR@origtitle\title
6814
6815 \renewcommand*\title[1]{%
6816   \LWR@origtitle{#1}%
6817   \begingroup%
6818     \renewcommand{\thanks}[1]{%
6819       \protected@xdef\thetitle{#1}%
6820     \endgroup%
6821 }

6822 \end{warpHTML}
```

**for HTML & PRINT:** 6823 `\begin{warpall}`


`\HTMLTitle`  $\langle Titlename \rangle$  The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6824 \providecommand{\thetitle}{\BaseJobname}
6825
6826 \newcommand{\theHTMLTitle}{\thetitle}
6827
6828 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

`\HTMLAuthor`  $\langle authorname \rangle$  The author to place into an HTML meta tag. If none given, the default is `\theauthor`, which is empty unless the titling package is used.

```
6829 \providecommand{\theauthor}{}
6830
6831 \newcommand{\theHTMLAuthor}{\theauthor}
6832
6833 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using `\HTMLDescription`, allowing different HTML descriptions to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription`  $\langle New html meta description. \rangle$  Assigns the HTML file's description meta tag.

```
6834 \newcommand{\LWR@currentHTMLDescription}{}
6835
6836 \newcommand{\HTMLDescription}[1]{%
6837   \renewcommand{\LWR@currentHTMLDescription}{#1}
6838 }
6839
6840 \end{warpall}
```

## 60 Footnotes

`lwarp` uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for **MATHJAX**, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading **lwarp**:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the **pagenote** package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The **footmisc** `stable` option is emulated by **lwarp**.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the **footmisc** package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
. . .
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using **memoir** class, with which **lwarp** preloads **footmisc**, the `stable` option must be declared before **lwarp** is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

## 60.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed

by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 94.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 69.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

**for HTML & PRINT:** 6841 `\begin{warpall}`

`FootnoteDepth` (*Ctr*) Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.  
**Default:** 3 The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```
6842 \newcounter{FootnoteDepth}
6843 \setcounter{FootnoteDepth}{3}
```

`footnoteReset` (*Ctr*) If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6844 \newcounter{footnoteReset}
6845 \setcounter{footnoteReset}{0}
```

```
6846 \end{warpall}
```

**for HTML output:** 6847 `\begin{warpHTML}`

Required for footnotes inside description or `amsththeorem` square braces:

```
6848 \AtBeginDocument{
6849 \robustify{\footnote}
6850 \robustify{\footnotemark}
6851 }
```

`\LWR@footnotetext` Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6852 \newbox\LWR@footnotetext
```

`LWR@spewingnotes` (*bool*) Used with the footnote package to suppress paragraph tags before and after `\spewnotes`.

```
6853 \newbool{LWR@spewingnotes}% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

`\@makefntext`  $\langle text \rangle$

```
6854 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~{#1}}
```

`\@makefnmark`

```
6855 \def\@makefnmark{%
6856   \textsuperscript{\@thefnmark}%
6857 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

`\LWR@@footnotetext`  $\langle text \rangle$   $\langle footnote\ box\ name \rangle$

Factored to allow multiple footnote boxes for `manyfoot`.

```
6858 \long\def\LWR@@footnotetext#1#2{%
6859 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6860 \LWR@newautopagelabel{page}%
6861 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6862 \begingroup%
6863 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:



```
6864 \global\setbox\csname #2\endcsname=\vbox{%
6865   \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6866   \protected@edef\@currentlabel{%
6867     \csname p@footnote\endcsname\@thefnmark%
6868   }% @currentlabel
```

Open a group:

```
6869   \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6870   \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
6871   \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
6872   \ifbool{LWR@spewingnotes}{}{%
6873     \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6874   }%
```

Append the footnote to the list:

```
6875   \@makefntext{#1}%
```

Closing paragraph tag:

```
6876   \ifbool{LWR@spewingnotes}{}{%
6877     \LWR@origtilde\LWR@orignewline%
6878     \LWR@htmltagc{/\LWR@tagregularparagraph}%
6879     \LWR@orignewline%
6880   }%
```

Close the group:

```
6881   \color@endgroup%
6882 }% vbox
6883 \endgroup%
6884 }%
```

```
\LWR@footnotetext {<text>}
```

```
6885 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{LWR@footnotebox}}%
```

```
\@footnotetext {<text>}
```

```
6886 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 60.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6887 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```
6888 \long\def\@mpfootnotetext#1{%
6889 \LWR@traceinfo{\@mpfootnotetext}%
6890 \LWR@ensuredoingapar%
6891 \global\setbox\LWR@mpfootnotes\vbox{%
6892   \unvbox\LWR@mpfootnotes%
6893   \reset@font\footnotesize%
6894   \hsize\columnwidth%
6895   \@parboxrestore%
6896   \protected@edef\@currentlabel%
6897     {\csname p@mpfootnote\endcsname\@thefnmark}%
6898   \color@begingroup%
```

Add paragraph tag:

```
6899   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6900   \@makefnctext{%
6901     \ignorespaces#1%
6902   }%
```

Add the closing paragraph tag:

```
6903   \leavevmode\LWR@orignewline%
6904   \LWR@htmltagc{/\LWR@tagregularparagraph}%
6905   \color@endgroup%
6906 }% vbox
```

Paragraph handling:

```
6907 \LWR@ensuredoingapar%
6908 \LWR@traceinfo{\@mpfootnotetext: done}%
6909 }
```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```
6910 \AtBeginDocument{
6911   \def\thempfootnote{\@alph\c@mpfootnote}
6912 }
```

## 60.6 Printing pending footnotes

```
\LWR@@printpendingfootnotes {<footnote counter name>}
```

```

6913 \newcommand*\LWR@printpendingfootnotes}[1]{%
6914 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6915   \LWR@forcenewpage
6916   \begin{BlockClass}(note){footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6917   \LWR@newautopagelabel{page}%

6918   \null
6919   \unvbox\csuse{LWR@#1box}
6920   \setbox\csuse{LWR@#1box}=\vbox{}
6921   \end{BlockClass}
6922   \ifltxcounter{#1Reset}{%
6923     \ifnumgreater{\value{#1Reset}}{0}{%
6924       \setcounter{#1}{\value{#1Reset}}%
6925       \addtocounter{#1}{-1}%
6926     }{}%
6927   }{}%
6928 \fi
6929 }

```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6930 \newcommand*\LWR@printpendingfootnotes}{%
6931   \LWR@printpendingfootnotes{footnote}%
6932 }

```

`\LWR@maybeprintpendingfootnotes` `{<depth>}` Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6933 \newcommand*\LWR@maybeprintpendingfootnotes}[1]{%
6934 \ifboolexpr{
6935   not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6936   bool{FormatEpub} or
6937   bool{FormatWP}
6938 }%
6939 {\LWR@printpendingfootnotes}%
6940 {}%
6941 }

```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

6942 \newcommand*\LWR@printpendingmpfootnotes}{%
6943 \ifvoid\LWR@mpfootnotes\else
6944   \LWR@forcenewpage
6945   \begin{BlockClass}(note){footnotes}%
6946   \null
6947   \unvbox\LWR@mpfootnotes
6948   \setbox\LWR@mpfootnotes=\vbox{}
6949   \end{BlockClass}
6950 \fi
6951 }

```

`\LWR@nullifyfootnotes` Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```

6952 \newcommand*\LWR@nullifyfootnotes}{%
6953   \renewcommand{\footnote}[2][{}]{%
6954     \renewcommand{\footnotemark}[1][{}]{%
6955   }

6956 \end{warpHTML}

```

## 61 Marginpars

`\marginpar` [*<left>*] [*<right>*] `\marginpar` may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*<left>*] [*<right>*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 6957 `\begin{warpHTML}`

`\marginpar` [*<left>*] [*<right>*]

```

6958 \renewcommand{\marginpar}[2][{}]{%
6959   \ifbool{FormatWP}%
6960   {%
6961     \begin{LWR@BlockClassWP}%
6962       {width:2in; float:right; margin:10pt}{(note){marginblock}%
6963     #2
6964     \end{LWR@BlockClassWP}%
6965   }%
6966   {%
6967     \LWR@htmlspanclass(note){marginpar}{#2}%
6968   }%
6969 }

```

`\marginparBlock` [*<left>*] [*<right>*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

6970 \newcommand{\marginparBlock}[2][{}]{%
6971   \LWR@stoppars%
6972   \ifbool{FormatWP}%
6973   {%
6974     \begin{LWR@BlockClassWP}%
6975       {width:2in; float:right; margin:10pt}{}%
6976     (note){marginblock}%
6977     #2
6978     \end{LWR@BlockClassWP}
6979   }%
6980   {%
6981     \begin{BlockClass}[width:2in; float:right; margin:10pt]%
6982     (note){marginparblock}%
6983     #2

```

```

6984     \end{BlockClass}
6985   }%
6986   \LWR@startpars%
6987 }

```

`\reversemarginpar`

```
6988 \renewcommand*\reversemarginpar{}
```

`\normalmarginpar`

```
6989 \renewcommand*\normalmarginpar{}
```

```
6990 \end{warHTML}
```

**for PRINT output:** 6991 `\begin{warpprint}`

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6992 \LetLtxMacro\marginparBlock\marginpar
```

```
6993 \end{warpprint}
```

## 62 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

`*_html.aux` (*file*) A new entry in the `*_html.aux` file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

`LWR@currentautosecpage` (*Ctrl*) Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following `autosec` label is created, thus the initial page number is recorded here.) `LWR@currentautosecfloatpage` is updated more often than `LWR@currentautosecpage`.

```
6994 \newcounter{LWR@currentautosecpage}
```

```
6995 \setcounter{LWR@currentautosecpage}{1}
```

`LWR@currentautosecfloatpage` (*Ctrl*) The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than `LWR@currentautosecpage`, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `auto` id by the modified `\addcontentsline` just before each float's entry.

```
6996 \newcounter{LWR@currentautosecfloatpage}
6997 \setcounter{LWR@currentautosecfloatpage}{1}
```

`LWR@previousautopagelabel`    Remembers which autopage label was most recently generated. Used to avoid  
(*Ctr*)    duplicates.

```
6998 \newcounter{LWR@previousautopagelabel}
6999 \setcounter{LWR@previousautopagelabel}{-1}
```

`\LWR@newautopagelabel`     $\langle$ *pagenumber counter* $\rangle$

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
7000 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
7001 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
7002     {)%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is `LWR@currentautosecpage`, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an SVG image, such as `SVG math`. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
7003     {)%
7004         \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
7005         \ifnumequal{\value{#1}}{\value{page}}%
7006             {)%
7007             {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
7008         \setcounter{LWR@previousautopagelabel}{\value{page}}%
7009     {)%
7010 }
```

`\LWR@null@newautopagelabel`     $\langle$ *pagenumber counter* $\rangle$

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
7011 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

## 63 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 7012 `\begin{warpall}`

`FileDepth (Ctr)` `{\section depth}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of `-5` produces one large HTML file.

```
7013 \newcounter{FileDepth}
7014 \setcounter{FileDepth}{-5}
```

`CombineHigherDepths (bool)` Combile higher-level sections together into one file?

```
7015 \newbool{CombineHigherDepths}
7016 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
7017 \newcommand*{\FilenameLimit}{80}

7018 \end{warpall}
```

**for HTML output:** 7019 `\begin{warpHTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
7020 \AtBeginDocument{
7021 \ifbool{FileSectionNames}%
7022   {\newcommand*{\LWR@thisfilename}{\HomeHTMLFilename}}
7023   {\newcommand*{\LWR@thisfilename}{0}}
7024 }
```

`\LWR@thisnewfilename` The filename being sanitized.

```
7025 \newcommand*{\LWR@thisnewfilename}{}
```

`\LWR@simplifname *{\expression}` Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
7026 \NewDocumentCommand{\LWR@simplifname}{s m}{%
7027 \IfBooleanTF{#1}{%
7028   \StrSubstitute{\LWR@thisnewfilename}%
7029     {\detokenize{#2}}%
7030     {\detokenize{-}}[\LWR@thisnewfilename]%
7031 }{%
7032   \StrSubstitute{\LWR@thisnewfilename}%
```

```

7033     {#2}%
7034     {\detokenize{-}}[\LWR@thisnewfilename]%
7035 }
7036 }

```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```
7037 \newcommand*\LWR@simplifycustom{}
```

`\FilenameSimplify` \*{*<phrase>*} Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```

7038 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7039 \IfBooleanTF{#1}{%
7040   \appto{\LWR@simplifycustom}{%
7041     \LWR@simplifiname*{#2}%
7042   }%
7043 }{%
7044   \appto{\LWR@simplifycustom}{%
7045     \LWR@simplifiname{#2}%
7046   }%
7047 }%
7048 }

```

`\LWR@avoiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenamenoblanks`, and in an error in `\LWR@newhtmlfile`.

```

7049 \newcommand*\LWR@avoiddupfilenames{%
7050   To avoid duplicate filenames, use the optional\MessageBreak
7051   short Table of Contents entry:\MessageBreak
7052   \space\space\protect\section[Unique name, no math]{Name with math}%
7053   \MessageBreak
7054   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
7055   \space\space%
7056   \protect\section{\MessageBreak
7057     \space\space\space\space\protect\texorpdfstring\MessageBreak
7058     \space\space\space\space\space\space%
7059     {Name with math}{Unique name, no math}\MessageBreak
7060   \space\space}
7061 }

```

`\LWR@filenamenoblanks` {*<filename>*}

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```

7062 \newcommand*\LWR@filenamenoblanks[1]{%
7063 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

7064 \LWR@nullfonts%
7065 \renewcommand*\LWR@htmltagc[1]{}%
7066 \edef\LWR@thisnewfilename{#1}%

```



Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```
7067 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7068 \LWR@simplifiname{\_}
7069 \LWR@simplifiname{\#}
7070 \LWR@simplifiname{\textbackslash}
7071 \LWR@simplifiname{\protect}
7072 \LWR@simplifiname{\ }
7073 \LWR@simplifiname{\textless}
7074 \LWR@simplifiname{\textgreater}
```

```
7075 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
7076 \ifbool{FileSectionNames}{%
7077   \IfSubStr{\LWR@thisnewfilename}{\LWR@dollar}{%
7078     \PackageWarning{lwarp}
7079     {%
7080       This section name:\MessageBreak
7081       \space\space‘\detokenize\expandafter{#1}’\MessageBreak
7082       at the line number listed below,\MessageBreak
7083       is using $dollar-delimited math$,
7084       which generates\MessageBreak
7085       complicated file names. It is better to use\MessageBreak
7086       \space\space%
7087       \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7088       \MessageBreak
7089       The math then will be removed from the file name.\MessageBreak
7090       \MessageBreak
7091       \LWR@avoiddupfilenames%
7092       \MessageBreak
7093       This section is found before or%
7094     }
7095   }{}%
7096 }{}
```

```
7097 \LWR@traceinfo{\LWR@filenamoblanks edef: !\LWR@thisnewfilename!}%
7098 \fullexpandarg%
```

Convert spaces into hyphens:

```
7099 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```
7100 \LWR@simplifiname*{*}
7101 \LWR@simplifiname*{(}
7102 \LWR@simplifiname*{)}
7103 \LWR@simplifiname*{.}
7104 \LWR@simplifiname*{!}
7105 \LWR@simplifiname*{,}
7106 \LWR@simplifiname*{'}
7107 \LWR@simplifiname*{+}
7108 \LWR@simplifiname*{/}
7109 \LWR@simplifiname*{:}
7110 \LWR@simplifiname*{;}
7111 \LWR@simplifiname*{=}
```

```

7112 \LWR@simplifiname*{?}
7113 \LWR@simplifiname*{@}
7114 \LWR@simplifiname*{^}
7115 \LWR@simplifiname*{&}
7116 \LWR@simplifiname*{"}
7117 \LWR@simplifiname*{<}
7118 \LWR@simplifiname*{>}

```

```
7119 \LWR@simplifiname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```

7120 \StrSubstitute{\LWR@thisnewfilename}%
7121   {\LWRleftbrace}{\LWR@thisnewfilename}%
7122 \StrSubstitute{\LWR@thisnewfilename}%
7123   {\LWRrightbrace}{\LWR@thisnewfilename}%

```

```

7124 \LWR@simplifiname{\LWRpercent}
7125 \LWR@simplifiname{\LWRdollar}

```

```

7126 \LWR@simplifiname*{ |}
7127 \LWR@simplifiname*{ ^}
7128 \LWR@simplifiname*{ ~}
7129 \LWR@simplifiname*{ [}
7130 \LWR@simplifiname*{ ]}
7131 \LWR@simplifiname*{ ' }

```

Convert short words:

```

7132 \LWR@simplifiname*{-s-}
7133 \LWR@simplifiname*{-S-}
7134 \LWR@simplifiname*{-a-}
7135 \LWR@simplifiname*{-A-}
7136 \LWR@simplifiname*{-an-}
7137 \LWR@simplifiname*{-AN-}
7138 \LWR@simplifiname*{-to-}
7139 \LWR@simplifiname*{-TO-}
7140 \LWR@simplifiname*{-by-}
7141 \LWR@simplifiname*{-BY-}
7142 \LWR@simplifiname*{-of-}
7143 \LWR@simplifiname*{-OF-}
7144 \LWR@simplifiname*{-and-}
7145 \LWR@simplifiname*{-AND-}
7146 \LWR@simplifiname*{-for-}
7147 \LWR@simplifiname*{-FOR-}
7148 \LWR@simplifiname*{-the-}
7149 \LWR@simplifiname*{-THE-}

```

Convert custom words:

```
7150 \LWR@simplifycustom%
```

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```

7151 \ifPDFTeX% pdflatex or dvi latex
7152 \ifdefstring{\inputencodingname}{utf8}{%
7153   \LWR@simplifiname*{-}

```

```

7154 %      emdash
7155   \LWR@simplifiname*{-}
7156 %      emdash
7157 }{%
7158 \else% not PDFTeX
7159   \LWR@simplifiname*{-}
7160   \LWR@simplifiname*{-}
7161 \fi%

```

Convert multiple hyphens:

```

7162 \LWR@simplifiname*{-----}
7163 \LWR@simplifiname*{----}
7164 \LWR@simplifiname*{---}
7165 \LWR@simplifiname*{--}

```

If starts with a dash, remove the leading dash:

```

7166 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7167   \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7168 }{%

```

If ends with a dash, remove the trailing dash:

```

7169 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7170   \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7171 }{%

```

Limits the length of the filename:

```

7172 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%

```

Return the global result:

```

7173 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7174 \endgroup%
7175 \LWR@traceinfo{LWR@filenamoblanks: result is \LWR@thisfilename}%
7176 }

```

### 63.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {<search>} {<replace>}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

7177 \bgroup
7178 \catcode'!=3 \catcode'?=3
7179
7180 \long\gdef\LWR@replacestrings@addto#1#2{%
7181   \expandafter\def\expandafter#1\expandafter{#1#2}%

```

```

7182 }
7183
7184 \gdef\LWR@replacestrings#1#2{%
7185   \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7186   \long\def\LWR@replacestringsB##1#1{%
7187     \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
7188     \expandafter\LWR@replacestringsB\fi%
7189   }%
7190   \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7191   \long\def\LWR@replacestringsA##1?{%
7192     \def\tmpb{##1}%
7193   }\expandafter\LWR@replacestringsA\tmpb%
7194 }
7195 \egroup

```

`LWR@MathJax@silentquotes` If true, double quotes (`\`" and `"`) are removed (used for `mathspec`). This unfortunately includes double quotes used inside `\text` with `MATHJAX`. If false, double quotes are escaped.

```

7196 \newbool{LWR@MathJax@silentquotes}
7197 \boolfalse{LWR@MathJax@silentquotes}

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitize`, `\LWR@HTMLsanitizeexpand`, or `\CustomizeMathJax`.

```

7198 \catcode'\#=12
7199 \catcode'\&=12
7200 \newcommand{\LWR@subHTMLsanitize}{%

```

The `&`, `<`, and `>` may be interpreted by the browser:

```

7201   \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7202   \LWR@replacestrings{&}{&};%
7203   \LWR@replacestrings{<}{&lt;};%
7204   \LWR@replacestrings{>}{&gt;};%

```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of `\`" and the `"` character.

```

7205   \ifbool{LWR@MathJax@silentquotes}
7206     {%
7207       \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
7208       \LWR@replacestrings{"}{}%
7209     }%
7210     {\LWR@replacestrings{"}{&quot;}}%
7211   \LWR@replacestrings{'}{&apos;};%
7212   \LWR@replacestrings{`}{&grave;};%

```

`MATHJAX` allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7213   \LWR@replacestrings{##}{#}%
7214   \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7215 }

```

```
7216 \catcode'\#=6
7217 \catcode'\&=4
```

`\LWR@HTMLsanitizedetokenized`  $\langle \textit{detokenized text} \rangle$

Prints the sanitized text, already detokenized.

```
7218 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7219   \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#1!}%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7220   \begingroup%
7221   \LWR@hook@processingtags%
7222   \edef\LWR@strresult{#1}%
7223   \LWR@subHTMLsanitize%
7224   \LWR@strresult%
7225   \endgroup%
7226   \LWR@traceinfo{\LWR@HTMLsanitize done}%
7227 }
```

`\LWR@HTMLsanitzeexpanded`  $\langle \textit{text} \rangle$

This version must be given the detokenized and expanded text. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```
7228 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7229 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7230 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7231 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7232
7233 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7234 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7235 \edef\LWR@endrightbrace{end\LWRrightbrace}
7236 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7237
7238 \newrobustcmd{\LWR@HTMLsanitzeexpanded}[1]{%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7239   \begingroup%
7240   \LWR@hook@processingtags%
7241   \edef\LWR@strresult{#1}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7242   \protect\StrSubstitute{\LWR@strresult}%
7243     {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7244   \protect\StrSubstitute{\LWR@strresult}%
7245     {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%
7246   \LWR@subHTMLsanitize%
7247   \LWR@strresult%
7248   \endgroup%
7249 }
```

## 63.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7250 \newcommand*{\LWR@customizedMathJax}{}
```

`LWR@warnedcustomizemathjax` Used to issue only one warning about using a `\CustomizeMathJax` per macro.  
(*bool*)

```
7251 \newbool{LWR@warnedcustomizemathjax}
7252 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` {*macro definition*}

```
7253 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7254   \begingroup%
7255   \LWR@hook@processingtags%
7256   \edef\LWR@strresult{\detokenize{#1}}%
7257   \LWR@subHTMLsanitize%
7258   \xdef\LWR@customizedMathJax{%
7259     \LWR@customizedMathJax%
7260     \LWR@strresult%
7261   }%
7262   \endgroup%
7263 }
7264 \@onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```
7265 \newcommand*{\CustomizeMathJax}[1]{%
7266   \ifbool{LWR@warnedcustomizemathjax}{%
7267     \StrLen{\detokenize{#1}}[\LWR@tempone]%
7268     \ifnumgreater{\LWR@tempone}{350}{%
7269       \AtEndDocument{%
7270         \PackageNoteNoLine[lwarp]{%
7271           To ensure faster MathJax compilation, place each\MessageBreak
7272           custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7273           See the Lwarp documentation regarding customizing\MessageBreak
7274           MathJax%
7275         }%
7276       }%
7277       \booltrue{LWR@warnedcustomizemathjax}%
7278     }{}%
7279   }%
7280   \appto\LWR@customizedMathJax{\LWRbackslash}%
7281   \LWR@subcustomizedmathjax{#1}%
7282   \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
7283 }
7284 \@onlypreamble\CustomizeMathJax
```

`\LWR@infoprocessingmathjax` {*package name*}

```
7285 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7286   \typeout{---}
7287   \typeout{Package lwarp: Processing MathJax customizations for #1.}}
```

```

7288 \typeout{\space\space This may take a moment.}
7289 \typeout{---}
7290 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment. For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

⚠ `\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>X in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```

7291 \providecommand{\footnotename}{footnote}
7292
7293 % due to warpMathJax:
7294 \end{warpHTML}
7295
7296 \begin{warpMathJax}
7297 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7298   \LWRbackslash(%
7299   \LWRbackslash}{newcommand%
7300   \{\LWRbackslash}{footnotename}\}%
7301   \{\footnotename}\}%
7302   \LWRbackslash)\par%
7303 }
7304 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

7305 \begin{warpMathJax}
7306 \CustomizeMathJax{\def\LWRfootnote{1}}
7307 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\^{\mathrm{#1}}}}
7308 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\^{\mathrm{#1}}}}

```

`\hspace` is modified to accept and ignore a star:

```

7309 \CustomizeMathJax{\let\LWRorighspace\hspace}
7310 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}

```

Various other customizations:

```

7311 \CustomizeMathJax{\newcommand{\mathnormal}[1]{\#1}}
7312 \CustomizeMathJax{\newcommand\ensuremath[1]{\#1}}
7313 \CustomizeMathJax{% absorb two optional arguments
7314   \newcommand{\LWRframebox}[2][\fbox{#2}}
7315   \newcommand{\framebox}[1][\LWRframebox}
7316 }
7317 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7318 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7319 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7320 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7321 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7322 \CustomizeMathJax{\newcommand{\number}[1]{}}

```

```

7323 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\\}}
7324 \CustomizeMathJax{\newcommand{\cline}[1]{} }
7325 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7326 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7327 \CustomizeMathJax{\newcommand{\protect}{} }
7328 \CustomizeMathJax{\def\LRabsorbnumber#1 {} }
7329 \CustomizeMathJax{\def\LRabsorbquotenumber"#1 {} }
7330 \CustomizeMathJax{\newcommand{\LRabsorboption}[1][ ]{} }
7331 \CustomizeMathJax{\newcommand{\LRabsorbtwoptions}[1][ ]{\LRabsorboption}}
7332 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LRabsorbquotenumber\LRabsorbnumber}}
7333 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7334 \CustomizeMathJax{\let\delcode\mathcode}
7335 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7336 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7337 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7338 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7339 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7340 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7341 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7342 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7343 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7344 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7345 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7346 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7347 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7348 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7349 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7350 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7351 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7352 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7353 \end{warpMathJax}
7354
7355
7356 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

7357 \newcommand{\LWR@customizeMathJax}{%
7358 \ifbool{mathjax}{
7359 \LWR@stoppars
7360 \LWR@htmlcomment{MathJax customizations:}
7361
7362 \begin{BlockClass}{hidden}
7363 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7364 {
7365   \LWR@print@ttfamily
7366   \LWR@customizeMathJax

```



```

7367 }
7368 \LWR@startpars
7369 \end{BlockClass}
7370
7371 \LWR@startpars
7372 }{}
7373 }

7374 \end{warphTML}

```

**for PRINT output:** 7375 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7376 \newcommand*\CustomizeMathJax[1]{}

```

\FilenameSimplify \* {*expression*}

```
7377 \NewDocumentCommand{\FilenameSimplify}{s m}{}

```

```
7378 \end{warpprint}

```

**for HTML output:** 7379 \begin{warphTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7380 \newcommand*\LWR@createfooter{%
7381   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7382     \ifdefempty{\LWR@firstpagebottom}{%
7383       \LWR@htmlElement{footer}
7384
7385       \LWR@firstpagebottom
7386
7387       \LWR@htmlElementend{footer}
7388     }%
7389   }{%
7390     \ifdefempty{\LWR@pagebottom}{%
7391       \LWR@htmlElement{footer}
7392
7393       \LWR@pagebottom
7394
7395       \LWR@htmlElementend{footer}
7396     }%
7397   }%
7398 }

```

\LWR@newhtmlfile {*section name*}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```

7399 \newcommand*\LWR@newhtmlfile[1]{
7400 \LWR@traceinfo{LWR@newhtmlfile}

```

At the bottom of the ending file:

```
7401 \LWR@htmlElementclassend{section}{tbody}
7402 \LWR@htmlElementclassend{main}{bodycontainer}
7403 \LWR@htmlElementclassend{div}{bodyandsidetoc}
7404
7405 \LWR@printpendingfootnotes
7406
```

No footer between files if EPUB:

```
7407 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7408 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7409   {}
7410   {\ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7411 \LWR@stoppars
7412 \LWR@htmltag{/body}\LWR@orignewline
7413 \LWR@htmltag{/html}\LWR@orignewline
7414 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
7415 \LWR@maybe@orignewpage
```

```
7416 \addtocounter{LWR@htmlfilenumber}{1}%
7417 \addtocounter{LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7418 \ifbool{FileSectionNames}%
7419 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7420   \LWR@filenameno blanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7421   \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7422   \ifcsundef{LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
7423     \csdef{LWR@filename\LWR@hashedname}{}%
7424     }{%
```

If the filename is not unique, create an error.

```
7425     \PackageError{lwarp}%
7426     {%
7427         The section name:\MessageBreak
7428         ‘‘#1’’,\MessageBreak
7429         at the line number listed below,\MessageBreak
7430         generates the filename\MessageBreak
7431         ‘‘\LWR@thisfilename’’,\MessageBreak
7432         which appears to be a duplicate. There is a\MessageBreak
7433         previous section with an identical or similar name.\MessageBreak
7434         While generating file names, Lwarp sanitizes math,\MessageBreak
7435         most symbols, and a few common short words,\MessageBreak
7436         and this may cause a conflict.\MessageBreak
7437         Enter ‘H’ for possible solutions%
7438     }%
7439     {%
7440         \LWR@avoiddupfilenames%
7441     }%
7442 }%
7443 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7444 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7445 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```
7446 \begingroup%
7447 \LWR@nullfonts%
7448 \LWR@htmlblockcomment{%
7449 |Start file|}%
7450 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7451 }
7452 \endgroup%
```

At the top of the starting file:

```
7453 \LWR@stoppars
7454
```

Start a new file with the given section name:

```
7455 \LWR@filestart[#1]
7456
```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

```
7457 \setcounter{LWR@currentautosecfloatchpage}{\value{page}}%
7458 \LWR@newautopagelabel{LWR@currentautosecfloatchpage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7459 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7460   {}
7461   {\LWR@topnavigation}
7462
```

No header if between files if formatting for an EPUB or word processor:

```
7463 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7464   {}
7465   {
7466       \ifdefempty{\LWR@pagetop}{\{
7467           \LWR@htmlElement{header}
7468
7469           \LWR@pagetop
7470
7471           \LWR@htmlElementend{header}
7472       }
7473   }
7474
```

The container for the sidetoc and text body:

```
7475 \LWR@htmlElementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
7476 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7477   {}
7478   {\LWR@sidetoc}
7479
```

Start of the <textbody>:

```
7480 \LWR@htmlElementclass{main}{bodycontainer}
7481 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7482 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7483 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7484   {%
7485   {%
7486       \ifcvoid{thetitle}{\{
7487           \LWR@printthetitle%
7488       }%
7489   }%
```

Keep paragraph tags disabled for now:

```
7490 \LWR@stoppars
7491
```

If using MATHJAX, print the customizations here.

```
7492 \LWR@customizeMathJax

7493 \LWR@traceinfo{LWR@newhtmlfile: done}
7494 }

7495 \end{warpHTML}
```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

**Unicode accents in filenames** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf<sub>l</sub>atex* to generate characters and *pdf<sub>t</sub>otext* to read them. If extra symbols appear in the text, it may be that *pdf<sub>l</sub>atex* is actually producing a symbol over or under a character, resulting in *pdf<sub>t</sub>otext* picking up the accent symbol separately.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7496 \begin{warpHTML}

### 64.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```
7497 \newbool{LWR@forcinghtmlpage}
7498 \boolfalse{LWR@forcinghtmlpage}
7499
7500 \newcommand*{\ForceHTMLPage}{%
7501 \global\booltrue{LWR@forcinghtmlpage}%
7502 }
```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```
7503 \newbool{LWR@forcinghtmltoc}
7504 \boolfalse{LWR@forcinghtmltoc}
7505
7506 \newcommand*{\ForceHTMLTOC}{%
7507 \global\booltrue{LWR@forcinghtmltoc}%
7508 }

7509 \end{warpHTML}
```

**for PRINT output:**

```
7510 \begin{warpprint}
7511 \newcommand*{\ForceHTMLPage}{}
7512 \newcommand*{\ForceHTMLTOC}{}
7513 \end{warpprint}
```

**for HTML output:**

```
7514 \begin{warpHTML}
```

## 64.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.



```
7515 \newbool{LWR@mainmatter}
7516 \DeclareDocumentCommand{\mainmatter}{}{}%
7517 \booltrue{LWR@mainmatter}%
7518 }
```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
7519 \DeclareDocumentCommand{\frontmatter}{}{}%
7520 \boolfalse{LWR@mainmatter}%
7521 }
```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```
7522 \DeclareDocumentCommand{\backmatter}{}{}%
7523 \boolfalse{LWR@mainmatter}
7524 }
```

## 64.3 Sectioning support macros

`\LWR@sectionnumber`  $\langle section\ type \rangle$

Typeset a section number and its trailing space with CSS formatting:

```
7525 \newcommand*{\LWR@sectionnumber}[1]{%
7526 \InlineClass{sectionnumber}{#1}%
7527 }
```

`autosec` A tag used by the TOC and index.


`\LWR@createautosec`  $\{\langle section type \rangle\}$

Create an autosection tag.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

```
7528 \newcommand*\LWR@createautosec}[1]{%
7529 \LWR@htmltag{%
7530   #1 % space
7531   id=\textquotedbl\LWR@print@box{autosec-\arabic{page}}\textquotedbl%
7532 }%
7533 }
```


`\LWR@pushoneclose`  $\{\langle sectiontype \rangle\}$  Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LWR@stoppars` must be executed first.

```
7534 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7535 \LWR@traceinfo{\LWR@pushoneclose #1}%
7536   \LWR@pushclose{#1}%
7537 }
```

`\LWR@startnewdepth`  $\{\langle sectiontype \rangle\}$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LWR@stoppars` must be executed first.

```
7538 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7539 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7540 \LWR@pushoneclose{#1}%
7541 }
```

`LWR@prevFileDepth` (*Ctrl*) Remembers the previous `LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7542 \newcounter{LWR@prevFileDepth}
7543 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secntformat`  $\{\langle sectiontype \rangle\}$

```
7544 \def\@secntformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
7545 \newcommand*\simplechapterdelim{}
```

`\@chapcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7546 \let\@chapcntformat\@secntformat
```

`\@partcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secntformat` by default, but may be redefined by `ctex`.

```
7547 \let\@partcntformat\@secntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7548 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

```
7549 \newcommand*\LWR@printchaptername{%
7550   \ifvoid{\chaptername}{\chaptername~}%
7551 }
```

`\LWR@section` \* [ $\langle TOC name \rangle$ ]  $\{\langle name \rangle\}$   $\{\langle sectiontype \rangle\}$

The common actions for the high-level sectioning commands.

```
7552 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7553   \IfValueTF{#2}%
7554     {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7555     {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a `<span>`:

```
7556   \LWR@spanwarninvalid{section}%
```

```
7557 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7558 \LWR@stoppars%
7559 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7560 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for `appendix`.

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```
7561 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
```



```

7562 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7563 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7564 \ifthenelse{%
7565   \(%
7566     \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7567     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7568     \(\boolean{LWR@forcinghtmlpage}\)%
7569   \)%
7570   \AND%
7571   \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7572   \AND%
7573   \(%
7574     \NOT\boolean{CombineHigherDepths}\OR%
7575     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7576   \)%
7577   \AND%

7578   \(% phantomsection
7579     \NOT\isempty{#3}%
7580     \OR%
7581     \(\NOT\equal{#1}{\BooleanTrue}\)%
7582   \)%
7583 }%

```

If so: start a new HTML file:

```

7584 {% new file
7585   \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7586   \IfNoValueTF{#2}%

```

If no optional entry

```

7587     {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7588     {\LWR@newhtmlfile{#2}}%
7589 }% new file

```

Else: No new HTML file:

```

7590 {% not new file

```

Generate a new  $\LaTeX$  page so that toc and index page number points to the section:

```

7591   \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7592   \LWR@maybe@orignewpage%
7593 }% not new file
7594

```

Remember this section's name for \nameref:

```

7595 \IfValueT{#3}{%

```

```

7596 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7597 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7598 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML  
section opening comments, so the short toc entry is used if possible, and a limited  
opening comment is made if the sectional unit is starred.

```

7599 \begingroup%
7600 \LWR@nullfonts%
7601 \LWR@nullifyfootnotes%
7602 \LWR@htmlcomment{%
7603 \LWR@orignewline%
7604 \IfValueTF{#2}%
7605 {..... #4 #2 .....}%
7606 {..... #4 #3 .....}%
7607 \LWR@orignewline%
7608 }%
7609 \LWR@orignewline%
7610 \ifbool{HTMLDebugComments}%
7611 {%
7612 \IfBooleanTF{#1}% starred
7613 {%
7614 \IfNoValueTF{#2}% short TOC
7615 {\LWR@htmlcomment{Opening #4* ‘#3’}}%
7616 {\LWR@htmlcomment{Opening #4* ‘#2’}}%
7617 }%
7618 {%
7619 \IfNoValueTF{#2}% short TOC
7620 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7621 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7622 }%
7623 \LWR@orignewline%
7624 }%
7625 }%
7626 \endgroup%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7627 \ifthenelse{%
7628 \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7629 }%
7630 {\LWR@startpars}%
7631 }%

```

Create the opening tag with an autosec:

```

7632 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7633 \LWR@createautosec{\@nameuse{LWR>tag#4}}%

```

```

7634 \setcounter{LWR@currentautosecpage}{\value{page}}%

```

Check if starred:

```

7635 \IfBooleanTF{#1}%
7636 {%
7637 \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7638     \ifbool{LWR@forcingtoc}%
7639     {%
7640         \addcontentsline{toc}{#4}{%
7641             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7642         }%
7643     }%
7644     {%}
7645 }% starred

```

Not starred, so step counter and add to TOC:

```
7646 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```

7647     \ifthenelse{%
7648         \cinttest{\@nameuse{LWR@depth#4}}{<=} {\value{secnumdepth}}%
7649     }%
7650     {% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```

7651         \LWR@traceinfo{LWR@section: about to test main matter}%
7652         \ifbool{LWR@mainmatter}%
7653         {%
7654             \LWR@traceinfo{LWR@section: yes mainmatter}%
7655             \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

7656         \LWR@traceinfo{LWR@section: about to addcontentsline}%
7657         \addcontentsline{toc}{#4}{%
7658             {%
7659                 \protect\numberline{%
7660                     \@nameuse{pre#4name}%
7661                     \@nameuse{the#4}%
7662                     \@nameuse{post#4name}%
7663                 }%
7664             }%
7665             \ignorespaces%
7666             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7667         }%
7668     }%
7669     \LWR@traceinfo{LWR@section: finished addcontentsline}%
7670 }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7671     {% not main matter
7672         \LWR@traceinfo{LWR@section: no main matter}%
7673         \addcontentsline{toc}{#4}{%
7674             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7675         }%
7676     }% end of not main matter
7677 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
7678   {%
7679     \addcontentsline{toc}{#4}{%
7680       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7681     }%
7682   }%
```

For part, print “Part”:

```
7683   \ifbool{LWR@mainmatter}%
7684   {%
7685     \ifthenelse{%
7686       \(\cntttest{\@nameuse{LWR@depth#4}}{<=}%
7687         {\value{secnumdepth}}\)\ \AND%
7688       \(\cntttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7689     }%
7690     {\@partnameformat}%
7691   }%
```

Print the section number:

```
7692   \LWR@traceinfo{LWR@section: about to print section number}%
7693   \ifthenelse{%
7694     \cntttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7695   }%
7696   {%
7697     \ifstrequal{#4}{part}%
7698     {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7699     {%
7700       \ifstrequal{#4}{chapter}%
7701       {%
7702         \LWR@printchaptername%
7703         \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7704       }%
7705       {\protect\LWR@sectionnumber{\@seccntformat{#4}}}%
7706     }%
7707   }%
7708   }%
7709   \LWR@traceinfo{LWR@section: finished print section number}%
7710   }{}%
7711 }% not starred
```

Print the section name:

```
7712 \LWR@traceinfo{LWR@section: about to print the section name}%
7713 \LWR@isolate{#3}%
```

Close the heading tag, such as /H2:

```
7714 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7715 \LWR@htmltag{\@nameuse{LWR>tag#4end}}%
7716 \LWR@orignewline%
```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for LWR@currentautosecpage for the start of the section, and

also for the current page if it is different due to an svg image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
7717 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7718 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7719 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7720 \ifbool{LWR@setseqfilelabel}{}{%
7721   \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7722   \booltrue{LWR@setseqfilelabel}%
7723 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7724 \ifthenelse{%
7725   \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7726 }%
7727   {\LWR@startpars}%
7728   {}%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part\* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter\* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```
7729 \ifthenelse{%
7730   \NOT\equal{#1}{\BooleanTrue}\OR%
7731   \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7732 }%
7733   {% not starred
7734     \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7735   }% not starred
7736   {}%
```

Reset to defaults if not a phantomsection:

```
7737 \ifstrempy{#3}%
7738   {}%
7739   {%
7740     \global\boolfalse{LWR@forcinghtmlpage}%
7741     \global\boolfalse{LWR@forcinghtmltoc}%
7742   }%
7743 %
7744 \LWR@traceinfo{LWR@section: done}%
7745 }
```

## 64.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```
7746 \providecommand*\prebookname{}
7747 \providecommand*\postbookname{}
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```
7748 \providecommand*\prepartname{}
7749 \providecommand*\postpartname{}
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postchaptername`

```
7750 \providecommand*\prechaptername{}
7751 \providecommand*\postchaptername{}
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.

`\postsectionname`

```
7752 \providecommand*\presectionname{}
7753 \let\postsectionname\presectionname
7754
7755 \let\presubsectionname\presectionname
7756 \let\postsubsubsectionname\postsectionname
7757
7758 \let\presubsubsectionname\presectionname
7759 \let\postsubsubsectionname\postsectionname
7760
7761 \let\preparagraphname\presectionname
7762 \let\postparagraphname\postsectionname
7763
7764 \let\presubparagraphname\presectionname
7765 \let\postsubparagraphname\postsectionname
```

## 64.5 `\section` and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```
7766 \newcommand{\part@preamble}{}% for koma-script
7767
7768 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7769   \LWR@section{#1}{#3}{#6}{part}%
7770
7771   \part@preamble% for koma-script
7772   \renewcommand{\part@preamble}{}%
7773 }
```

`\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7774 \let\@printcites\relax% for quotchap package
7775
7776 \newcommand{\chapter@preamble}{}% for koma-script
7777
7778 \@ifundefined{chapter}
7779 {}
7780 {}%
7781   \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7782     \LWR@section{#1}{#3}{#6}{chapter}%
7783
7784     \@printcites% for quotchap package
7785
7786     \chapter@preamble% for koma-script
7787     \renewcommand{\chapter@preamble}{}%
7788   }
7789 }

```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7790 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7791   \LWR@section{#1}{#3}{#6}{section}%
7792 }

```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7793 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7794   \LWR@section{#1}{#3}{#6}{subsection}%
7795 }

```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7796 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7797   \LWR@section{#1}{#3}{#6}{subsubsection}%
7798 }

```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7799 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7800   \LWR@section{#1}{#3}{#6}{paragraph}%
7801 }

```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7802 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7803   \LWR@section{#1}{#3}{#6}{subparagraph}%
7804 }

```

```

7805 \end{warpHTML}

```

## 65 Starting a new file

**for HTML & PRINT:** 7806 `\begin{warpall}`

`\HTMLLanguage` Default language for the HTML lang tag.

```
7807 \newcommand*\LWR@currentHTMLLanguage}{en-US}
7808
7809 \newcommand*\HTMLLanguage}[1]{%
7810   \renewcommand*\LWR@currentHTMLLanguage}{#1}%
7811 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7812 \ifPDFTeX% pdflatex or dvi latex
7813   \ifdefstring{\inputencodingname}{utf8}{%
7814     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7815   }{%
7816     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7817   }%
7818 \else%
7819   \ifpTeX
7820     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7821   \else
7822     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7823   \fi%
7824 \fi%
```

`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7825 \newcommand*\HTMLTitleBeforeSection}{%
7826   \def\theHTMLTitleSection{%
7827     \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7828   }%
7829 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7830 \newcommand*\HTMLTitleAfterSection}{%
7831   \def\theHTMLTitleSection{%
7832     \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7833   }%
7834 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7835 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.



```
7836 \newcommand*{\theHTMLSection}{}
```

```
7837 \end{warpall}
```

**for HTML output:** 7838 \begin{warpHTML}

\LWR@filestart [*<section name>*]      Creates the opening HTML tags.

```
7839 \newcommand*{\LWR@filestart}[1][\LWR@filestart]{}
```

```
7840 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7841 \begingroup%
```

```
7842 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7843 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7844 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
```

```
7845 \StrSubstitute{\theHTMLSection}%
```

```
7846   {\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]%
```

```
7847 \StrSubstitute{\theHTMLSection}%
```

```
7848   {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
```

```
7849 \StrSubstitute{\theHTMLSection}%
```

```
7850   {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
```

```
7851 \StrSubstitute{\theHTMLSection}%
```

```
7852   {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7853 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
```

```
7854   \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
```

```
7855 }{%}
```

Create the page's HTML header:

```
7856 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
7857 \LWR@htmltag{%
```

```
7858   html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
```

```
7859 }\LWR@orignewline
```

Start of the meta data:

```
7860 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7861 \LWR@htmltag{%
7862     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl \ /%
7863 }\LWR@orignewline
```

Author:

```
7864 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7865     {}%
7866     {%
7867         \LWR@htmltag{%
7868             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl \ % space
7869             content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl \ /%
7870             }\LWR@orignewline%
7871     }%
```

lwarp is the generator:

```
7872 \LWR@htmltag{%
7873     meta % space
7874     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl \ % space
7875     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl \ /%
7876 }\LWR@orignewline%
```

If there is a description, add it now:

```
7877 \ifdefempty{\LWR@currentHTMLDescription}{}%
7878     \LWR@htmltag{%
7879         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl \ % space
7880         content=\LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl \ /%
7881     }\LWR@orignewline
7882 }%
```

Mobile-friendly viewport:

```
7883 \LWR@htmltag{%
7884     meta % space
7885     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl \ % space
7886     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl \ /%
7887 }\LWR@orignewline
```

IE patch:

```
7888 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
7889 \LWR@htmltag{%
7890     script % space
7891     src=\LWR@orig@textquotedbl{}%
7892     http://html5shiv.googlecode.com/svn/trunk/html5.js%
7893     \LWR@orig@textquotedbl%
7894 }%
7895 \LWR@htmltag{/script}\LWR@orignewline
7896 \LWR@htmltag{![endif]-\/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7897 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7898     {}%
```

```

7899   {%
7900     \LWR@htmltag{title}%
7901     \ifdefempty{\theHTMLSection}%
7902       {\theHTMLTitle}%
7903       {\theHTMLTitleSection}%
7904     \LWR@htmltag{/title}\LWR@orignewline%
7905   }%

```

The page's stylesheet:

```

7906 \LWR@htmltag{%
7907   link % space
7908   rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7909   type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7910   href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7911 }%
7912 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7913 \ifbool{mathjax}%
7914 {%
7915   \begingroup%
7916   \LWR@restoreoriglists%
7917   \boolfalse{LWR@verbtags}%
7918
7919   \IfFileExists{\LWR@mathjaxfilename}%
7920     {\verbatiminput{\LWR@mathjaxfilename}}%
7921     {\PackageError{lwarp}%
7922       {%
7923         \protect\MathJaxFilename\space specified the file\MessageBreak
7924         \space\space\LWR@mathjaxfilename\MessageBreak
7925         which does not exist%
7926       }%
7927       {Specify an existing file, or remove \protect\MathJaxFilename.}%
7928     }%
7929
7930   \booltrue{LWR@verbtags}%
7931   \endgroup%
7932   \LWR@stoppars%
7933 }% end of mathjax
7934 }%

```

End of the header:

```

7934 \LWR@htmltag{/head}\LWR@orignewline

```

Start of the body:

```

7935 \LWR@htmltag{body}\LWR@orignewline
7936 \endgroup%
7937 \LWR@traceinfo{LWR@filestart: done}%
7938 }

```

```
7939 \end{warpHTML}
```

## 66 Starting HTML output

**for HTML output:** 7940 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7941 \catcode'\$=\active
7942 \newcommand*\LWR@LwarpStart{
7943 {%
7944 \LWR@traceinfo{LWR@lwarpStart}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7945 \ifbool{FormatWP}{%
7946   \setcounter{FileDepth}{-5}%
7947   \boolfalse{HTMLDebugComments}%
7948 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7949 \edef\LWR@strresult{\HomeHTMLFilename}
7950 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7951 \edef\LWR@strresult{\HTMLFilename}
7952 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7953 \LWR@origonecolumn%
7954 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7955 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7956 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7957 \LWR@print@raggedright%
7958 \LetLtxMacro{\}\LWR@endofline%
```

Spread the lines for *pdftotext* to read them well:

```
7959 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7960 \setlength{\parindent}{0pt}
7961 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
7962 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7963 \setlength{\belowcaptionskip}{0ex}
```

```
7964 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7965 \renewcommand{\ps@plain}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7966 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7967 \global\booltrue{LWR@doingparhooks}
```

```
7968 \global\boolfalse{LWR@doingapar}
```

```
7969 \global\boolfalse{LWR@doingstartpars}
```

`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
7970 \let\color@endgroup\endgroup
```

Document and page settings:

```
7971 \mainmatter
```

```
7972 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7973 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
```

```
7974 \LWR@filestart%
```

Tell *lwarpmk* that the `lwarp` package is in use. This allows *lwarpmk* to warn if `usepackage{lwarp}` was somehow disabled.

```
7975 \begingroup%
```

```
7976 \LWR@nullfonts%
```

```
7977 \LWR@htmlblockcomment{%
```

```
7978 |Using lwarp|%
```

```
7979 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
```

```
7980 }
```

```
7981 \endgroup%
```

```
7982 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7983 \ifdefempty{\LWR@firstpagetop}{}%
```

```
7984 \LWR@htmltag{header}\LWR@orignewline
```

```
7985 \LWR@startpars
```

```
7986 \LWR@firstpagetop
```

```
7987 \LWR@stoppars
```

```
7988 \LWR@htmltag{/header}\LWR@orignewline
7989 }%
```

```
7990 \LWR@htmlclass{div}{bodywithoutstoc}
7991 \LWR@htmlclass{main}{bodycontainer}
7992 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7993 \LWR@htmlclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7994 \booltrue{LWR@setseqfilelabel}%
7995 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7996 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7997 \catcode'\$=\active
```

Required for `\nameref` to work with SVG math:

```
7998 \immediate\write\@mainaux{\catcode'\string$\active}%
7999 \LetLtxMacro\LWR@syntaxhighlightone% balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
8000 \LWR@startpars
```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
8001 \ifbool{mathjax}{
8002   \typeout{---}
8003   \typeout{Package lwarp:}
8004   \typeout{Processing MathJax customizations for the first HTML page.}
8005   \typeout{Later HTML pages will take the same amount of time.}
8006   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
8007 }{}
8008
8009 \LWR@customizeMathJax
8010
8011 \ifbool{mathjax}{
8012   \typeout{Done.}
8013   \typeout{---}
8014 }{}
```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```
8015 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8016 \LWR@newautopagelabel{LWR@currentautosecpage}%
```

```

8017 \LWR@traceinfo{LWR@lwarpStart: done}
8018 }
8019 \catcode'\$=3% math shift until lwarp starts

8020 \end{warpHTML}

```

## 67 Ending HTML output

**for HTML output:** 8021 \begin{warpHTML}

`\LWR@requesttoc` {<*boolean*>} {<*suffix*>} Requests that a TOC, LOF, or LOT be generated.

```

8022 \newcommand*\LWR@requesttoc[2]{%
8023 \ifbool{#1}
8024 {
8025   \expandafter\newwrite\@nameuse{tf@#2}
8026   \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
8027 }{}
8028 }

```

`\LWR@LwarpEnd` Final stop of all HTML output:

```

8029 \newcommand*\LWR@LwarpEnd}
8030 {
8031 \LWR@stoppars
8032 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Print any pending footnotes:

```
8033 \LWR@printpendingfootnotes
```

Close the textbody.

(The `\LWR@origtilde` is in case no autopage is required for the label, which would not print anything, and something must be printed before the newline.)

```
8034 \label{\BaseJobname-autofile-last}\LWR@origtilde\LWR@orignewline
```

```

8035 \LWR@htmlElementclassend{section}{textbody}
8036 \LWR@htmlElementclassend{main}{bodycontainer}
8037 \LWR@htmlElementclassend{div}{bodyandsidetoc}

```

Create the footer if not EPUB

```
8038 \ifbool{FormatEPUB}{ }\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```

8039 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}
8040   {}
8041   {
8042     \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}
8043   }

```

8044 \LWR@stoppars% final stop of all paragraphs

Finish the HTML file:

```

8045 \LWR@htmltag{/body}\LWR@orignewline
8046 \LWR@htmltag{/html}\LWR@orignewline

```

Seems to be required sometimes:

```

8047 \LWR@maybe@orignewpage
8048 }

```

enddocument/info (*Hook*) Used to close the \*-images.txt file.  
[LaTeX]

\enddocument If labels have not changed, mark successful completion of the lateximages.txt file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```

8049 \ifdef{\AddToHook}{% newer kernel
8050   \AddToHook{enddocument/info}{%
8051     \if@filesw
8052       \ifx \@multiplelabels \relax
8053         \if@tempswa

```

This is where warnings of duplicate labels would appear.

```
8054   \else
```

No duplicate labels, so safe to create images.

```

8055     \immediate\write\LWR@lateximagesfile{%
8056       |end|end|end|}%
8057     }%
8058     \fi
8059     \fi\fi
8060   }
8061 }% newer kernel
8062 {% older kernel
8063   \xpatchcmd{\enddocument}
8064     {%
8065       \if@tempswa
8066         \@latex@warning@no@line{Label(s) may have changed.
8067         Rerun to get cross-references right}%
8068       \fi
8069     }
8070     {%
8071       \if@tempswa
8072         \@latex@warning@no@line{Label(s) may have changed.
8073         Rerun to get cross-references right}%
8074       \else

```



No duplicate labels, so safe to create images.

```

8075         \immediate\write\LWR@lateximagesfile{%
8076             |end|end|end|%
8077         }%
8078     \fi
8079 }
8080 {}
8081 {
8082     \AtEndDocument{
8083         \PackageWarningNoLine{lwarp}
8084         {%
8085             Could not patch \protect\enddocument.\MessageBreak
8086             If labels have changed, be sure to recompile before\MessageBreak
8087             creating lateximages with\MessageBreak
8088             \space\space lwarpmk images,\MessageBreak
8089             or the images may be corrupt%
8090         }
8091     }
8092 }
8093 }% older kernel

```

## 68 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

`shipout/background` (*Hook*) Nullified.  
[LaTeX]

`shipout/foreground` (*Hook*) Nullified.  
[LaTeX]

```

8094 \ifdef{\RemoveFromHook}{
8095     \AfterEndPreamble{
8096         \IfHookEmptyTF{shipout/background}{}{
8097             \PackageInfo{lwarp}{Removing background hook}
8098             \RemoveFromHook{shipout/background}[*]
8099         }
8100         \IfHookEmptyTF{shipout/foreground}{}{
8101             \PackageInfo{lwarp}{Removing foreground hook}
8102             \RemoveFromHook{shipout/foreground}[*]
8103         }
8104     }
8105 }{}

8106 \end{warpHTML}

```

## 69 Title page

**package support** `lwarp` supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.



**load order**

`\published` and `\subtitle` If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

**affiliation** `lwarp` provides for the `\author` macro an additional `\affiliation` macro to pro-

vide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage's \theauthor` in the main text.

### reusing titlepage information

The titling package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.

⚠ `\theauthor, authblk`

### custom titlepages

`\printtitle`, `\printauthor`, etc., are provided for use inside a custom titlepage or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.

⚠ `\thanks` Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

## 69.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author` `{\author}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a titlepage or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printtitle`, etc. are user-level macros intended to be used in custom titlepage or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\thetitle`, `\theauthor`, and `\thedata` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
```

```

\begin{center}\textcopyright~20xx \theauthor\end{center}
}

```

△ **\theauthor, authblk** `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

△ **affiliations** After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

**\affiliation** A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 69.2 \if@titlepage

**for HTML & PRINT:** 8107 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```

8108 \ifcvoid{@titlepagefalse}{
8109   \newif\if@titlepage
8110   \@titlepagefalse
8111 }{}

8112 \end{warpall}

```

## 69.3 Changes for \affiliation

`\affiliation`  $\langle text \rangle$

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 8113 `\begin{warpall}`  
8114 `\providerobustcmd{\affiliation}[1]{}`  
8115 `\end{warpall}`

**for PRINT output:** 8116 `\begin{warpprint}`

```

8117 \AtBeginEnvironment{titlepage}{
8118 \renewrobustcmd{\affiliation}[1]{\ \ \textsc{\small#1}}
8119 }
8120
8121 \AtBeginDocument{
8122 \IfPackageLoadedTF{titling}{
8123 \AtBeginEnvironment{titlingpage}{
8124 \renewrobustcmd{\affiliation}[1]{\ \ \textsc{\small#1}}

```

```

8125 }
8126 }{}% titling loaded
8127 }% AtBeginDocument

8128 \end{warpprint}

```

**for HTML output:** 8129 \begin{warppHTML}

`titlepage` (*env.*) Sets up a <div> of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```

8130 \DeclareDocumentEnvironment{titlepage}{}
8131 {%
8132   \renewrobustcmd{\affiliation}[1]{\ \InlineClass{affiliation}{##1}}%
8133   \LWR@printpendingfootnotes
8134   \LWR@forcenewpage
8135   \BlockClass{titlepage}
8136 }
8137 {
8138   \endBlockClass
8139   \LWR@printpendingfootnotes
8140 }

8141 \end{warppHTML}

```

## 69.4 Printing the thanks

`\printthanks` Forces the `\thanks` to be printed. This is necessary in a `titlingpage` environment when `\maketitle` was not used.

**for PRINT output:** 8142 \begin{warpprint}  
8143 \newcommand\*{\printthanks}{\@thanks}  
8144 \end{warpprint}

**for HTML output:** 8145 \begin{warppHTML}  
8146 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
8147 \end{warppHTML}

## 69.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in HTML:

**for HTML output:** 8148 \begin{warppHTML}

```

\printtitle

8149 \newcommand*{\printtitle}
8150 {%
8151   \LWR@stoppars%
8152   \LWR@htmltag{\LWR@tagtitle}%
8153   \@title%
8154   \LWR@htmltag{\LWR@tagtitleend}%
8155   \LWR@startpars%
8156 }

```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
8157 \newcommand*\LWR@printthetitle
8158 {%
8159   \LWR@stoppars%
8160   \LWR@htmltag{\LWR@tagtitle}%
8161   \thetitle%
8162   \LWR@htmltag{\LWR@tagtitleend}%
8163   \LWR@startpars%
8164 }
```

`\printauthor` HTML version.

```
8165 \newcommand*\printauthor{
```

The entire author block is contained in a <div> named author:

```
8166 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
8167 \renewcommand{\and}{%
8168 \end{BlockClass}
8169 \begin{BlockClass}{oneauthor}
8170 }
```

Individual authors are contained in a <div> named oneauthor:

```
8171 \begin{BlockClass}{oneauthor}
8172 \@author
8173 \end{BlockClass}
8174 \end{BlockClass}
8175 }
```

`\printdate`

```
8176 \newcommand*\printdate{%
8177 \begin{BlockClass}{titledate}
8178 \@date
8179 \end{BlockClass}
8180 }
```

```
8181 \end{warphTML}
```

## 69.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** `8182 \begin{warpprint}`

`\printtitle`

```
8183 \newcommand*\printtitle{{{\Huge\@title}}
```

`\printauthor` Print mode.

```
8184 \newcommand*{\printauthor}
8185   {\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

`\printdate`

```
8186 \newcommand*{\printdate}{\small\textit{\@date}}
8187 \end{warpprint}
```

## 69.7 `\maketitle` for HTML output

An HTML `<div>` of class `titlepage` is used.

`\thanks` are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** 8188 `\begin{warppHTML}`

```
8189 \IfClassLoadedTF{memoir}
8190 {
8191   \newcommand{\LWR@setfootnoteseries}{%
8192     \renewcommand\thefootnote{\@arabic\c@footnote}%
8193   }
8194 }{% not memoir
8195 \if@titlepage
8196   \newcommand{\LWR@setfootnoteseries}{%
8197     \renewcommand\thefootnote{\@arabic\c@footnote}%
8198   }
8199 \else
8200   \newcommand{\LWR@setfootnoteseries}{%
8201     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8202   }
8203 \fi
8204 }% not memoir
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
8205 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
8206 \LWR@setfootnoteseries%
8207 \def\@makefnmark{%
8208   \textsuperscript{\thefootnote}%
8209 }
```

```
\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
8210 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8211 \textsuperscript{\@thefnmark}~%
```

```
\makethanksmark ⇒ \thanksfootmark ⇒ \tmark ⇒
\@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
8212 {##1}%
```

```
8213 }%
```

```
8214 }
```

```
\@fnsymbol {<counter>}
```

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
8215 \def\LWR@HTML@fnsymbol#1{%
8216   \ifcase#1\or * \or
8217   \HTMLentity{dagger} \or
8218   \HTMLentity{Dagger} \or
8219   \HTMLentity{sect} \or
8220   \HTMLentity{para} \or
8221   \HTMLunicode{2016} \or
8222   ** \or
8223   \HTMLentity{dagger} \HTMLentity{dagger} \or
8224   \HTMLentity{Dagger} \HTMLentity{Dagger} \else
8225   \@ctrerr \fi%
8226 }
8227 \LWR@formatted{@fnsymbol}
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

```
8228 \newcommand*{\LWR@maketitle}{%
```

An HTML titlepage `<div>` is used for all classes.

```
8229 \begin{titlepage}
```

Set up special patches:

```
8230 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8231 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8232 \LWR@stoppars \@thanks \LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

8233 \end{titlepage}
8234 \setcounter{footnote}{0}%
8235 \global\let\thanks\relax
8236 \global\let\maketitle\relax
8237 \global\let\@maketitle\relax
8238 \global\let\@thanks\@empty
8239 \global\let\@author\@empty
8240 \global\let\@date\@empty
8241 \global\let\@title\@empty
8242 \global\let\title\relax
8243 \global\let\author\relax
8244 \global\let\date\relax
8245 \global\let\and\relax
8246 }
8247
8248 \LetLtxMacro\maketitle\LWR@maketitle

```

`\@maketitle` HTML mode. Typesets the title, etc.:

```

8249 \providecommand*\@maketitle{}
8250 \renewrobustcmd*\@maketitle{%
8251     \LWR@stoppars%
8252     \LWR@htmltag{\LWR@tagtitle}%
8253     \@title%
8254     \LWR@htmltag{\LWR@tagtitleend}%
8255     \LWR@startpars%
8256     \begin{BlockClass}{author}%

```

For IEEEtran class:

```

8257     \renewcommand*\cr{}%
8258     \renewcommand*\crrc{}%
8259     \renewcommand*\noalign{}%

8260     \renewcommand{\and}{%
8261         \end{BlockClass}%
8262         \begin{BlockClass}{oneauthor}%
8263     }%
8264     \begin{BlockClass}{oneauthor}%
8265         \@author%
8266     \end{BlockClass}%
8267 \end{BlockClass}%
8268 \begin{BlockClass}{titledate}%
8269     \@date%
8270 \end{BlockClass}%
8271 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
8272 \newcommand*\LWR@titlingmaketitle{%
```

Keep pending footnotes out of the title block:

```
8273 \LWR@stoppars\@thanks\LWR@startpars
```



Set up special patches:

```
8274 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8275 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8276 \LWR@stoppars\@thanks\LWR@startpars
8277 }
```


```
8278 \end{warphTML}
```

## 69.8 \published and \subtitle

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpa`ll.

**for HTML & PRINT:** 8279 `\begin{warpa`ll}

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```
8280 \newcommand*\AddSubtitlePublished{%
8281 \IfPackageLoadedTF{titling}{% yes titling package
8282   \newcommand{\@published}{}%
8283   \newcommand{\published}[1]{\gdef\@published{##1}}%
8284   \renewcommand*\maketitlehooka{\printpublished}%
8285   \newcommand*\printpublished{%
8286     \warpprintonly{\begin{center}\unskip}%
8287     \begin{BlockClass}{published}%
8288     \warpprintonly{\large\itshape}%
8289     \@published%
8290     \end{BlockClass}%
8291     \warpprintonly{\end{center}}%
8292   }%
8293   \newcommand{\@subtitle}{}%
8294   \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8295   \renewcommand*\maketitlehookb{\printsubtitle}%
8296   \newcommand*\printsubtitle{%
8297     \warpprintonly{\begin{center}\unskip}%
8298     \begin{BlockClass}{subtitle}%
8299     \warpprintonly{\Large\itshape}%
8300     \@subtitle%
```

```

8301         \end{BlockClass}%
8302         \warpprintonly{\end{center}}%
8303     }%
8304 }% yes titling package
8305 {% no titling package

8306     \def\@published{}%
8307     \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8308     \DeclareDocumentCommand{\printpublished}{}{}%
8309     \def\@subtitle{}%
8310     \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8311     \DeclareDocumentCommand{\printssubtitle}{}{}%
8312 }% no titling package
8313 }% \AddSubtitlePublished

8314 \end{warppall}

```

## 70 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8315 \begin{warppHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

```
8316 \providecommand*\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

abstract (*env.*)

```

8317 \DeclareDocumentEnvironment{abstract}{0}{\abstractname}
8318 {
8319     \LWR@forcenewpage
8320     \BlockClass{abstract}
8321     \BlockClassSingle{abstracttitle}{#1}
8322 }
8323 {
8324     \endBlockClass
8325 }

8326 \end{warppHTML}

```

## 71 Quote and verse

### 71.1 Attributions

\attribution {<name>}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\textsl{Book Title}}

**for HTML & PRINT:** 8327 \begin{warpall}  
 8328 \newcommand{\attribution}[1]{  
 8329 \begin{flushright}  
 8330 \unskip  
 8331 #1  
 8332 \end{flushright}}%  
 8333 }  
 8334 \end{warpall}

**for HTML output:** 8335 \begin{warpHTML}  
 8336 \newcommand{\LWR@HTML@attribution}[1]{%  
 8337 \LWR@stoppars%  
 8338 \begin{BlockClass}{attribution}  
 8339 #1  
 8340 \end{BlockClass}  
 8341 \LWR@startpars%  
 8342 }  
 8343 \LWR@formatted{attribution}  
 8344 \end{warpHTML}

## 71.2 Quotes, quotations

**for HTML output:** 8345 \begin{warpHTML}

quote (*env.*)

```
8346 \newenvironment*{\LWR@HTML@quote}
8347 {
8348 \LWR@forcenewpage
8349 \LWR@htmlblocktag{blockquote}
8350 }
8351 {\LWR@htmlblocktag{/blockquote}}
8352
8353 \LWR@formattedenv{quote}
```

quotation (*env.*)

```
8354 \newenvironment*{\LWR@HTML@quotation}
8355 {
8356 \LWR@forcenewpage
8357 \LWR@htmlblocktag{blockquote}
8358 }
8359 {\LWR@htmlblocktag{/blockquote}}
8360
8361 \LWR@formattedenv{quotation}

8362 \end{warpHTML}
```

## 71.3 Verse

When using verse or memoir, always place a \\ after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

`\leftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ spacing Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ verse margin

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

for HTML output: 8363 `\begin{warpHTML}`

verse (*env.*)

```
8364 \newenvironment{LWR@HTML@verse}
8365     {\let\\newline% lwarp
8366     \list{}{\itemsep \z@
8367     \itemindent -1.5em%
8368     \listparindent\itemindent
8369     \rightmargin \leftmargin
8370     \advance\leftmargin 1.5em}%
8371     \item\relax}
8372     {\endlist}
8373
8374 \LWR@formattedenv{verse}

8375 \end{warpHTML}
```

for HTML & PRINT: 8376 `\begin{warpall}`

### 71.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\leftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

`\HTMLvleftskip` (*Len*) Sets `\vleftskip` inside a verse environment in HTML.

```
8377 \newlength{\HTMLvleftskip}
8378 \setlength{\HTMLvleftskip}{1em}
```

`\HTMLleftmargini` (*Len*) Sets `\leftmargini` inside a verse environment in HTML.

```
8379 \newlength{\HTMLleftmargini}
8380 \setlength{\HTMLleftmargini}{4.5em}
```

```
8381 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8382 `\begin{warpall}`

`\VerbatimHTMLWidth` (*Len*) Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
8383 \newlength{\VerbatimHTMLWidth}
8384 \setlength{\VerbatimHTMLWidth}{4in}
8385 \end{warpall}
```

**for HTML output:** 8386 `\begin{warpHTML}`

`LWR@verbtags` (*bool*) Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
8387 \newbool{LWR@verbtags}
8388 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```
8389 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8390
8391 \def\LWR@verb@egroup@endspan{%
8392   \LWR@orig@verb@egroup%
8393   \LWR@htmltag{/span}%
8394   \endgroup%
8395 }

8396 \xpretocmd{\verb}
8397   {%
8398     \begingroup%
8399     \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl}%
8400     \let\verb@egroup\LWR@verb@egroup@endspan%
8401   }
8402   {}
8403   {\LWR@patcherror{LaTeX}{\verb}}
```

`\LWR@atbeginverbatim` [*1: style*] [*2: class*]

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of `"` improves compatibility with `xeCJK`.

```
8404 \newcommand*{\LWR@atbeginverbatim}[2][[]
8405 {%
```

Stop generating HTML paragraph tags:

```
8406 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8407 \setlength{\parskip}{0ex}%
8408 \setlength{\topsep}{0pt}%
8409 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull `\hbox` warnings.

```
8410          \hbadness=10000\relax%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the `MATHJAX` script.

```
8411 \ifbool{\LWR@verbtags}{%
8412   \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8413     \ifthenelse{\equal{#1}{}}{ style=\textquotedbl#1\textquotedbl}%
8414   }%
8415   \par%
8416 }{}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
8417 \begingroup%
```

```
8418 \LWR@print@normalfont%
8419 \LWR@origttfamily%
8420 \LWR@print@scriptsize%
```

Since inside a `<pre>`, restore the original list processing:

```
8421 \LWR@restoreoriglists%
```

Turn off `babel-french` extra space before punctuation:

```
8422 \LWR@hook@processingtags%
```

Do not produce HTML tags for `\hspace` inside a verse par. Restore plain `LATEX` `\hspace` functionality:

```
8423 \let\hspace\LWR@print@hspace%
8424 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8425 \newcommand*\LWR@afterendverbatim}{%
8426 \endgroup%
8427 \par%
```

At the end of the environment, close the pre:

```
8428 \ifbool{\LWR@verbtags}{%
8429   \noindent\LWR@htmltag{/pre}\par% pre
8430 }{ }%
```

Resume regular paragraph handling:

```
8431 \LWR@startpars%
8432 }
```

`\verbatiminput {<filename>}`

Patch `\verbatiminput` to add HTML tags:

```
8433 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8434   \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{ }%
8435   \LWR@atbeginverbatim{Verbatim}%
8436   \LWR@print@verbatim@input{#1}{#2}%
8437   \LWR@afterendverbatim%
8438 }
8439
8440 \LWR@formatted{verbatim@input}
```

`verbatim (env.)`


```
8441 \AfterEndPreamble{
8442 \LWR@traceinfo{Patching verbatim.}
8443 \AtBeginEnvironment{verbatim}{%
8444   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8445     }%
8446     {%
8447       \LWR@forcenewpage%
8448       \LWR@atbeginverbatim{verbatim}%
8449     }%
8450 }
8451 \AfterEndEnvironment{verbatim}{%
8452   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8453     }%
8454     {%
8455       \LWR@afterendverbatim%
8456     }%
8457 }
8458 %
8459 \AtBeginEnvironment{verbatim*}{%
8460   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8461     }%
8462     {%
8463       \LWR@forcenewpage%
8464       \LWR@atbeginverbatim{verbatim}%
8465     }%
8466 }
8467 \AfterEndEnvironment{verbatim*}{%
8468   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8469     }%
8470     {%
8471       \LWR@afterendverbatim*%
8472     }%
8473 }
```

```

8469     {}%
8470     {%
8471         \LWR@afterendverbatim%
8472     }%
8473 }
8474 }

```

tabbing (*env.*) The tabbing environment works, except that svg math and lateximages do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a lateximage environment, which will render the entire environment as a single svg image.

```

8475 \newenvironment*{LWR@HTML@tabbing}
8476 {%
8477     \LWR@forcenewpage%
8478     \LWR@atbeginverbatim{tabbing}%
8479     \let\enskip\LWR@print@enskip%
8480     \let\quad\LWR@print@quad%
8481     \let\qquad\LWR@print@qquad%
8482     \let~\LWR@origtilde%
8483     \let\,\LWR@origcomma%
8484     \let\thinspace\LWR@print@thinspace%
8485     \let\negthinspace\LWR@print@negthinspace%
8486     \LWR@print@tabbing%
8487 }
8488 {%
8489     \endLWR@print@tabbing%
8490     \LWR@afterendverbatim%
8491 }
8492
8493 \LWR@formattedenv{tabbing}

8494 \end{warpHTML}

```

## 73 Theorems

```
\newtheorem {<text>} [<counter>] — or — [<oldname>] {<text>}
```

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a <div> of class theoremcontents.
- The label for each theorem is placed inside a <span> of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

**for HTML output:** 8495 \begin{warpHTML}

```
\@begintheorem {<name>} {<number>}
```

```

8496 \renewcommand{\@begintheorem}[2]{%
8497 \LWR@forcenewpage

```



```

8498   \LWR@printpendingfootnotes%           lwarp

8499 \BlockClass{theoremcontents}
8500 \trivlist
8501 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8502 }

```

`\@opargbegintheorem`  $\langle name \rangle$   $\langle number \rangle$   $\langle oparg \rangle$

L<sup>A</sup>T<sub>E</sub>X defines this, but amsthm \relaxes it, so it will not be defined if amsthm is loaded before lwarp.

```

8503 \ifundef{\@opargbegintheorem}{\{
8504   \renewcommand{\@opargbegintheorem}[3]{%
8505     \LWR@forcenewpage
8506     \BlockClass{theoremcontents}
8507     \trivlist
8508     \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8509   }
8510 }

```

`\@endtheorem`

```

8511 \renewcommand*\@endtheorem}{%
8512 \endtrivlist

8513   \LWR@printpendingfootnotes%           lwarp

8514 \endBlockClass% theoremcontents
8515 }

8516 \end{warpHTML}

```

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L<sup>A</sup>T<sub>E</sub>X environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The L<sup>A</sup>T<sub>E</sub>X source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```

begin{itemize}
item \mbox{}
  \begin{itemize}
...
  \end{itemize}
item \


```

```

\begin{itemize}
...
\end{itemize}

```

`\makelabel` While inside a list environment, `lwarp` nullifies a number of T<sub>E</sub>X horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

 **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

## 74.1 List environment

**for HTML output:** 8517 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8518 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
8519 \newcommand*{\LWR@printopenlist}{%
8520   ul style=\textquotedbl\LWR@print@embox{list-style-type:none}\textquotedbl}%
8521 }
```

`\@mklab` Removes PDF spacing.

```
8522 \AtBeginDocument{
8523 \def\@mklab#1{%
8524 %   \hfil %
8525   #1}
8526 \let\makelabel\@mklab
8527 }
```

`\@donoparitem` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8528 \def\@donoparitem{%
8529   \@noparitemfalse
8530 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
8531 %                                     \unhbox\@labels
8532 %                                     \hskip \leftmargin}%
8533 %   \if@minipage\else
8534 %     \@tempskipa\lastskip
8535 %     \vskip -\lastskip
8536 %     \advance\@tempskipa\@outerparskip
8537 %     \advance\@tempskipa -\parskip
8538 %     \vskip\@tempskipa
8539 %     \fi
8540 }
```

`\@item` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8541 \def\LWR@HTML@item[#1]{%
8542 \LWR@traceinfo{@item}%
8543 \if@noparitem
8544 \@donoparitem
8545 \else
8546 % \if@inlabel
8547 % \indent
8548 % \fi
8549 \ifhmode
8550 % \unskip\unskip
8551 \fi
8552 \if@newlist
8553 \if@nobreak
8554 \@nbitem
8555 \else
8556 % \addpenalty\@beginparpenalty
8557 % \addvspace\@topsep
8558 % \addvspace{-\parskip}%
8559 \fi
8560 \else
8561 % \addpenalty\@itempenalty
8562 % \addvspace\itemsep
8563 \fi
8564 \global\@inlabeltrue
8565 \fi
8566 % \everypar{%
8567 \@minipagefalse
8568 \global\@newlistfalse

8569 % \if@inlabel
8570 % \global\@inlabelfalse

8571 % {\setbox\z@\lastbox
8572 % \ifvoid\z@
8573 % \kern-\itemindent
8574 % \fi}%

8575 % \box\@labels
8576 % \penalty\z@
8577 % \fi

8578 % \if@nobreak
8579 % \@nobreakfalse
8580 % \clubpenalty \@M
8581 % \else
8582 % \clubpenalty \@clubpenalty
8583 % \everypar{%
8584 % \fi}%

8585 \if@noitemarg
8586 \@noitemargfalse
8587 \if@mbrlist

8588 \refstepcounter\@listctr
8589 \fi
8590 \fi

8591 \makelabel{#1} % extra space
```

```

8592 % \sbox\@tempboxa{\makelabel{#1}}%
8593 % \global\setbox\@labels\hbox{%
8594 % \unhbox\@labels
8595 % \hskip \itemindent
8596 % \hskip -\labelwidth
8597 % \hskip -\labelsep
8598 % \ifdim \wd\@tempboxa >\labelwidth
8599 % \box\@tempboxa

8600 % \else
8601 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8602 % \fi
8603 % \hskip \labelsep}%
8604 \ignorespaces%
8605 }

```

`\@nbitem`

```

8606 \def\@nbitem{%
8607 % \@tempskipa\@outerparskip
8608 % \advance\@tempskipa -\parskip
8609 % \addvspace\@tempskipa
8610 }

```

`\LWR@listitem` [*label*]

Handles `\item` inside a list, `itemize`, or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8611 \newcommand*\LWR@listitem{%
8612 % \LWR@stoppars%
8613 % \LWR@startnewdepth{listitem}%
8614 % \LWR@htmltag{li}%
8615 % \LWR@orignewline%
8616 % \LWR@startpars%
8617 % \LWR@ensuredoingapar%
8618 % \LWR@origitem%
8619 }

```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makelabel`. Problems are caused when these are nullified all the time.

```

8620 \newcommand*\LWR@nulllistfills{%
8621 % \renewcommand*\hss{}%
8622 % \renewcommand*\llap[1]{##1}%
8623 % \renewcommand*\rlap[1]{##1}%
8624 % \renewcommand*\hfil{}%
8625 % \renewcommand*\hfilneg{}%
8626 % \renewcommand*\hfill{}%
8627 }

```

`list (enu)` {*label*} {*commands*}

```

8628 \newcommand*\LWR@liststart{%
8629 % \LWR@traceinfo{LWR@liststart}%

```

```

8630 \LWR@stoppars%
8631 \LWR@pushoneclose{list}%
8632 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8633 \LWR@startpars%
8634 \setlength{\topsep}{0pt}%
8635 \setlength{\partopsep}{0pt}%
8636 \setlength{\itemsep}{0pt}%
8637 \setlength{\parsep}{0pt}%
8638 \setlength{\leftmargin}{0pt}%
8639 \setlength{\rightmargin}{0pt}%
8640 \setlength{\listparindent}{0pt}%
8641 \setlength{\itemindent}{0pt}%
8642 \setlength{\labelsep}{1em}%
8643 \LWR@nulllistfills%
8644 }

8645 \newcommand*\LWR@listend}{%
8646 \LWR@traceinfo{LWR@listend}%
8647 \LWR@stoppars%
8648 \LWR@closeprevious{list}%
8649 \LWR@startpars%
8650 }

```

## 74.2 Itemize

`\LWR@itemizeitem` [*<label>*]

Handles `\item` inside an itemize or enumerate.

The optional argument is passed to `\LWR@origitem`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8651 \newcommand*\LWR@itemizeitem}{%
8652 \LWR@stoppars%
8653 \LWR@startnewdepth{listitem}%
8654 \LWR@htmltag{li}%
8655 \LWR@orignewline%
8656 \LWR@startpars%
8657 \LWR@ensuredoingapar%
8658 \LWR@origitem%
8659 }

```

`itemize (env)` [*<options>*]

```

8660 \newcommand*\LWR@itemizestart}{%
8661 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
8662 \renewcommand*\LWR@printopenlist}{%
8663 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8664 }%
8665 \LetLtxMacro\item\LWR@itemizeitem%
8666 \LWR@nulllistfills%
8667 }

```

### 74.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

enumerate (*env.*) [*<options>*]

```

8668 \newcommand*\LWR@enumerateliststart}{%
8669   \renewcommand*\LWR@printcloseitem}{\LWR@printcloseitemize}%
8670   \renewcommand*\LWR@printopenitem}{%
8671     ul style=\textquotedbl\LWR@print@box{list-style-type:none}\textquotedbl}%
8672   }%
8673   \LetLtxMacro\item\LWR@itemizeitem%
8674   \LWR@nulllistfills%
8675 }
```

### 74.4 Description

\LWR@descitem [*<label>*] Handles an \item inside a description.

```

8676 \newcommand*\LWR@descitem}[1][1]{%
8677   \LWR@stoppars%
8678   \LWR@setlatestname{#1}%
8679   \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable \hspace, which is used by the standard classes to add space to the labels.

```

8680   \begingroup%
8681   \let\LWR@orig@desc@makeLabel\makeLabel
8682   \renewcommand*\makeLabel}[1]{%
8683     \LWR@htmltag{dt}%
8684     \LWR@orig@desc@makeLabel{#1}%
8685     \LWR@htmltag{/dt}%
8686   }
8687   \RenewDocumentCommand{\hspace}{s m}{}%
8688   \LWR@origitem[1]%
8689   \endgroup%
8690   \LWR@orignewline%
8691   \LWR@htmltag{dd}%
8692   \LWR@startpars%
8693 }
```

description (*env.*) [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```

8694 \newcommand*\LWR@descriptionstart}{%
8695   \renewcommand*\LWR@printcloseitem}{\LWR@printclosedescription}
8696   \renewcommand*\LWR@printopenitem}{dl}
8697   \LetLtxMacro\item\LWR@descitem%
8698   \LWR@nulllistfills%
8699 }
```

## 74.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8700 \newcommand*{\LWR@patchlists}{%
8701   \LetLtxMacro\item\LWR@listitem%
8702   \LetLtxMacro\@item\LWR@HTML@item%
8703   \renewcommand*{\@trivlist}{%
8704     \LWR@traceinfo{@trivlist start}%
8705     \LWR@liststart%
8706     \LWR@orig@trivlist%
8707     \LWR@traceinfo{@trivlist done}%
8708   }%
8709   \renewcommand*{\trivlist}{%
8710     \LWR@traceinfo{trivlist}%
8711     \LWR@origtrivlist%
8712   }%
8713   \renewcommand*{\endtrivlist}{%
8714     \LWR@traceinfo{endtrivlist start}%
8715     \LWR@origendtrivlist\LWR@listend%
8716     \LWR@traceinfo{endtrivlist done}%
8717   }%
8718   \renewcommand*{\itemize}{%
8719     \LWR@itemizestart\LWR@origitemize%
8720   }%
8721   \renewcommand*{\enumerate}{%
8722     \LWR@enumeratestart\LWR@origenumerate%
8723   }%
8724   \renewcommand*{\description}{%
8725     \LWR@descriptionstart\LWR@origdescription%
8726   }%
8727 }
```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8728 \newcommand*{\LWR@restoreoriglists}{%
8729   \LWR@traceinfo{LWR@restoreoriglists}%
8730   \LetLtxMacro\item\LWR@origitem%
8731   \LetLtxMacro\@item\LWR@orig@item%
8732   \let\@trivlist\LWR@orig@trivlist%
8733   \let\trivlist\LWR@origtrivlist%
8734   \let\endtrivlist\LWR@origendtrivlist%
8735   \LetLtxMacro\itemize\LWR@origitemize%
8736   \LetLtxMacro\enditemize\LWR@origitemize%
8737   \LetLtxMacro\enumerate\LWR@origenumerate%
8738   \LetLtxMacro\endenumerate\LWR@origenumerate%
8739   \LetLtxMacro\description\LWR@origdescription%
8740   \LetLtxMacro\enddescription\LWR@origdescription%
8741   \let\@mklab\LWR@orig@mklab%
8742   \let\makelabel\LWR@origmakelabel%
8743   \let\@donoparitem\LWR@orig@donoparitem%
8744   \let\@nbitem\LWR@orig@nbitem%
8745 }
```

8746 \end{warpHTML}

## 75 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 75.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining macros and environments:

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars
```

This includes before and after defining any macro which used \ttabbox from floatrow.

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

#### For developers:

- To automate the use of \StartDefiningTabulars and \EndDefiningTabulars, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.

⚠ Misplaced alignment  
tab character &

⚠ floatrow

⚠ tabular inside another  
environment



```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of @ and ! is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

**⚠ \newcolumntype**

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

**font and alignment**

- `lwarp` detects each of the following, and sets HTML CSS appropriately:
  - `>{\centering\arraybackslash}`
  - `>{\raggedright\arraybackslash}`
  - `>{\raggedleft\arraybackslash}`
  - `>{\itshape}`
  - `>{\bfseries}`
  - `>{\bfseries\itshape}`

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

**Rules:****vertical rules**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

**Other:**

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
```

```
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In  $\LaTeX$ , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

for HTML output: `8747 \begin{warppHTML}`

## 75.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 75.2.1 `arydshln`

Emulated by the original  $\LaTeX$  non-dashed versions.

⚠ `tabular` inside a `<span>`

```

8748 \LetLtxMacro\hdashline\hline
8749 \LetLtxMacro\cdashline\cline
8750 \LetLtxMacro\firsthdashline\hline
8751 \LetLtxMacro\lasthdashline\hline

```

### 75.3 Token lookahead

Used by `\LWR@futurenonpacelet` to look at the next token.

`\LWR@mynexttoken`

```
8752 \newcommand\LWR@mynexttoken\relax
```

`\LWR@futurenonpacelet` `\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futurenonpacelet` does the same, but ignores intervening spaces and paragraphs.

Based on the `booktabs` style:

```

8753 \def\LWR@futurenonpacelet#1{\def\LWR@cs{#1}%
8754 \afterassignment\LWR@fnslone\let\nexttoken= }
8755
8756 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8757
8758 \def\LWR@fnsltwo{%
8759   \expandafter\ifx\LWR@cs\sptoken%
8760     \let\next=\LWR@fnslthree%
8761   \else%
8762     \expandafter\ifx\LWR@cs\par%
8763       \let\next=\LWR@fnslthree%
8764     \else%
8765       \let\next=\nexttoken%
8766     \fi%
8767   \fi\next}
8768
8769 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

8770 \newcommand*\LWR@getmynexttoken){%
8771   \LWR@traceinfo{\LWR@getmynexttoken)%

```



Nothing must follow this next line:

```

8772   \LWR@futurenonpacelet\LWR@mynexttoken\LWR@tabledatacolumn tag
8773 }

```

### 75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `lwarp`'s new `\defaddtocounter` are used.

`LWR@startedrow` (*bool*) True if should print a row tag before this column.

8774 \newbool{LWR@startedrow}  
 8775 \boolfalse{LWR@startedrow}

LWR@tabularcelladded (*bool*) True if have added a data cell for this position.

8776 \newbool{LWR@tabularcelladded}  
 8777 \boolfalse{LWR@tabularcelladded}

LWR@hlines (*Ptr*) Number of \hlines or \midrules above the next row.

8778 \newcounter{LWR@hlines}

LWR@hdashedlines (*Ptr*) Number of \arydshln dashed lines above the next row.

8779 \newcounter{LWR@hdashedlines}

LWR@doingtbrule (*bool*) True if the next row will have a top/bottom rule above it.

8780 \newbool{LWR@doingtbrule}  
 8781 \boolfalse{LWR@doingtbrule}

LWR@doingcmidrule (*bool*) True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

8782 \newbool{LWR@doingcmidrule}  
 8783 \boolfalse{LWR@doingcmidrule}

LWR@tableparcell (*bool*) True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

8784 \newbool{LWR@tableparcell}

LWR@skippingmrowcell (*bool*) True if are doing an empty \multirow cell, and thus there is no data tag to close.

8785 \newbool{LWR@skippingmrowcell}

LWR@skippingmcolrowcell (*bool*) True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

8786 \newbool{LWR@skippingmcolrowcell}

LWR@usedmultirow (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8787 \newbool{LWR@usedmultirow}

LWR@foundmrowcell (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8788 \newbool{LWR@foundmrowcell}

LWR@skipatbang (*bool*) True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

8789 \newbool{LWR@skipatbang}

`LWR@emptyatbang` (*bool*) True if finishing a row and should print empty @ or ! column table data cells.

8790 `\newbool{LWR@emptyatbang}`

`LWR@intabularmetadata` (*bool*) True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

8791 `\newbool{LWR@intabularmetadata}`

8792 `\boolfalse{LWR@intabularmetadata}`

`LWR@exitingtabular` (*bool*) When `\end` is found, turns off the next opening data tag.

8793 `\newbool{LWR@exitingtabular}`

`LWR@tabularmutemods` (*bool*) Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate `\bottomrules`.

8794 `\newbool{LWR@tabularmutemods}`

`LWR@tabularfinalrow` (*bool*) Used to set `aria-hidden` if adding a final row for the purpose of adding the bottom border.

8795 `\newbool{LWR@tabularfinalrow}`

`LWR@validtablecol` (*bool*) True if found a valid table column type.

8796 `\newbool{LWR@validtablecol}`

`LWR@opttablecol` (*bool*) True if found a table column optional argument.

8797 `\newbool{LWR@opttablecol}`

Used to add a style to a table data cell:

8798 `\newbool{LWR@tdhavecellstyle}`

`LWR@tabularDepth` (*Ctr*) Tracks whether & is being used inside a tabular.

8799 `\newcounter{LWR@tabulardepth}`

8800 `\setcounter{LWR@tabulardepth}{0}`

`LWR@tabularpardepth` (*Ctr*) Tracks whether should look ahead at the next token when encountering a `\par` while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any `\pars` encountered must be followed by another token `lookahead`.

8801 `\newcounter{LWR@tabularpardepth}`

8802 `\setcounter{LWR@tabularpardepth}{0}`

8803 `\newcommand*{\LWR@colsresult}{}` %temp storage for column format results

8804 `\newcommand*{\LWR@pposition}{}`

8805 `\newcommand*{\LWR@pleft}{}`

8806 `\newcommand*{\LWR@pright}{}`

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting `@` and `!` columns.

Will contain a string such as `llrrccpc`, exactly one letter per `LATEX` table column, without `@`, `!`, `>`, `<`, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

```
8807 \providecommand*\LWR@strresult{}
8808 \providecommand*\LWR@strresulttwo{}
```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
8809 \newcommand*\LWR@origcolspec{}
```

`LWR@tablecolspecwidth` (*Ctr*) Holds the number of tokens in the table columns specification.

This includes one for each `@`, `!`, `<`, `>` column, and also one for each of the parameters of `p`, `@`, `!`, `<`, `>` columns, and three for each `D` column.

(This is not the total # of `LATEX` columns in the table.)

```
8810 \newcounter{LWR@tablecolspecwidth}
```

`LWR@tablecolspecindex` (*Ctr*) While parsing the `LATEX` table column specification, starts at 1 and is incremented per token of the specification.

```
8811 \newcounter{LWR@tablecolspecindex}
```

`LWR@tableLaTeXcolindex` (*Ctr*) While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
8812 \newcounter{LWR@tableLaTeXcolindex}
```

`LWR@tabletotalLaTeXcols` (*Ctr*) While parsing a table column specification, begins at 0 and increments by 1 per `LATEX` table column. Eventually holds the final number of `LATEX` table columns in each row, not counting `@` and `!` columns. (In `HTML`, `@` and `!` cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8813 \newcounter{LWR@tabletotalLaTeXcols}
```

`LWR@tabletotalLaTeXcolsnext` (*Ctr*) Holds the next `LATEX` table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8814 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for `@` columns. The leftmost's index is `leftedge`, the others are counter values. See section 42.

`LWR@colbangspec` A data array of specifications for `!` columns. The leftmost's index is `leftedge`, the others are counter values. See section 42.

`LWR@colbeforespec` A data array of specifications for `>` columns.

`LWR@colafterspec` A data array of specifications for `<` columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra css class, as set by >.

LWR@cellcolordepth (*Ctr*) Counts how many cell color <div>s were added to the current tabular data cell.

```
8815 \newcounter{LWR@cellcolordepth}
```

### 75.4.1 Multicolumn variables

```
8816 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8817 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8818 \newcounter{LWR@mcolvertbarsl}
```

```
8819 \newcounter{LWR@mcolvertbarsr}
```

```
8820 \newcounter{LWR@mcolvertbarsldash}
```

```
8821 \newcounter{LWR@mcolvertbarsrdash}
```

```
8822 \newbool{LWR@mcolvertbaronleft}
```

### 75.4.2 Longtable variables

LWR@starredlongtable (*bool*) Per the caption package, step the counter if longtable\*.

```
8823 \newbool{LWR@starredlongtable}
```

```
8824 \boolfalse{LWR@starredlongtable}
```

### 75.4.3 Midrule variables

LWR@midrulecounter (*Ctr*) Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8825 \newcounter{LWR@midrulecounter}
```

## 75.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

\LWR@insertatbangcols

```
8826 \newcommand*{\LWR@insertatbangcols}{%
```

```
8827   \ifbool{LWR@skipatbang}%
```

```
8828   {}%
```

```
8829   {%
```

```
8830     \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
```

```
8831     \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
```

```
8832   }%
```

```
8833 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8834 \newcommand*{\LWR@closetabledatacell}{%
8835   \booltrue{LWR@intabularmetadata}%
8836   \ifbool{LWR@exitingtabular}%
8837     {%

8838     \LWR@stoppars%
8839   }%
8840   {% not exiting tabular
8841     \ifboolexpr{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
8842     {%

8843     \LWR@stoppars%

```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

8844     \ifbool{LWR@skippingmcolrowcell}%
8845     {}%
8846     {\LWR@insertatbangcols}%
8847   }%
8848   {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8849     \unskip%
8850     \ifboolexpr{%
8851       bool{LWR@tabularmutemods} or
8852       bool{LWR@skipatbang} or
8853       bool{LWR@emptyatbang}
8854     }%
8855     {}%
8856     {%
8857       \LWR@getexparray{LWR@colafterspec}%
8858       {\arabic{LWR@tableLaTeXcolindex}}%
8859     }%

```

Close paragraphs:

```

8860     \LWR@stoppars%
8861     \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8862     \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
8863       \LWR@htmltag{/div}\LWR@orignewline%
8864       \defaddtocounter{LWR@cellcolordepth}{-1}%
8865     }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8866     \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%

```



```

8867         \global\booltrue{LWR@tabularcelladded}%
8868         \LWR@insertatbangcols%
8869     }% not skipping mrowcell
8870 }% not exiting tabular
8871 \boolfalse{LWR@skippingmrowcell}%
8872 \boolfalse{LWR@skippingmcolrowcell}%
8873 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

8874 \def\LWR@cellHTMLcolor{}%
8875 \def\LWR@columnHTMLcolor{}%
8876 \defcounter{LWR@cellcolordepth}{0}%
8877 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```

8878 \let\LWR@origampmacro&
8879 \end{warpHTML}

```

### 75.5.1 Handling &

**for HTML output:** 8880 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

8881 \newcommand*\LWR@tabularampersand{}%
8882     \LWR@traceinfo{LWR@tabularampersand}%
8883     \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8884     {%

```

If not skipping a multirow cell, close the current data cell.

```

8885     \unskip%
8886     \LWR@closetabledatacell%

```

Move to the next column.

```

8887     \defadddtocounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

8888     \global\boolfalse{LWR@tabularcelladded}%

```

Look at the next token to decide multi or single column data tag.

```

8889     \LWR@getmynexttoken%
8890     }%

```

If not inside a tabular, performs the original action:

```
8891   {%
8892     \LWR@origampmacro%
8893   }%
8894 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

## 75.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8895 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8896   \ifboolexpr{%
8897     not bool {LWR@exitingtabular} or%
8898     bool{LWR@doingtbrule} or%
8899     bool{LWR@doingcmidrule} or%
8900     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8901     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8902     bool{LWR@startedrow}%
8903   }%
```

Temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated.

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
8904   \ifbool{LWR@exitingtabular}{%
8905     \booltrue{LWR@tabularmutemods}%
8906   }{%
8907     \boolfalse{LWR@tabularmutemods}%
8908   }%
```

Locally reenable the table data tags until finished with the final row:

```
8909   \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8910   \whileboolexpr{%
```

```

8911     test {
8912         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8913             {\value{LWR@tabletotalLaTeXcols}}
8914     } or %
8915     (%
8916         bool{LWR@intabularmetadata} and%
8917         not bool{LWR@tabularcelladded} and%
8918         test {
8919             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8920                 {\value{LWR@tabletotalLaTeXcols}}
8921         }%
8922     )%
8923 }%
8924 {%
8925     \LWR@tabulatedatasinglecolumnntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

8926     \LWR@closetabledatacell%
8927     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8928     \global\boolfalse{LWR@tabularcelladded}%
8929     \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8930     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8931         {\value{LWR@tabletotalLaTeXcols}}%
8932         {\LWR@getmynexttoken}%
8933     }%
8934 }%

```

Reenable the original `LWR@exitingtabular` to close the entire table:

```

8935     \ifbool{LWR@tabularmutemods}{%
8936         \booltrue{LWR@exitingtabular}%
8937     }{%
8938         \boolfalse{LWR@exitingtabular}%
8939     }%
8940     \boolfalse{LWR@tabularmutemods}%

8941     \boolfalse{LWR@emptyatbang}%
8942     }{% ifboolexpr
8943 }

```

## 75.7 Handling `\`

Inside `tabular`, `\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `\\*`

```
\LWR@tabularendofline
```

```
8944 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```

8945 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8946     {\value{LWR@tabletotalLaTeXcols}}%
8947     {\LWR@tabularfinishrow}%
8948     {\LWR@closetabledatacell}%
8949 \LWR@htmltag{/tr}\LWR@orignewline%

```

**xcolor row color support:**

```
8950 \@rowcolor%
```

**No longer inside a data cell:**

```
8951 \booltrue{LWR@intabularmetadata}%
```

**Not yet started a table row:**

```
8952 \boolfalse{LWR@startedrow}%
```

**Additional setup:**

```

8953 \defcounter{LWR@hlines}{0}%
8954 \defcounter{LWR@hdashedlines}{0}%
8955 \boolfalse{LWR@doingtbrule}%
8956 \boolfalse{LWR@doingcmidrule}%
8957 \LWR@clearmidrules%

```

```
8958 \def\LWR@rowHTMLcolor{}
```

**Start at first column:**

```
8959 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

**Have not yet added data in this column:**

```
8960 \global\boolfalse{LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```

8961 \LWR@stoppars%
8962 \LWR@forceemptyline%

```

Look at the next token to decide between single column data tag or a special case:

```

8963 \LWR@getmynexttoken%
8964 }

```

## 75.8 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {<offset>}
```

Looks offset tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```

8965 \newcommand*{\LWR@columnspeclookahead}[1]{%
8966   \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
8967   \addtocounter{\LWR@tempcountone}{#1}%
8968   \fullexpandarg%
8969   \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%

```

Get the contents of the first group in `\LWR@strresulttwo`:

```

8970   \exploregroups%
8971   \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8972   \noexploregroups%
8973 }

```

## 75.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```

8974 \newcommand*{\LWR@colparameter}{}

```

`\LWR@parseatcolumn` {<*this column type*>}

Handles @`{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

8975 \newcommand*{\LWR@parseatcolumn}[1]{%

```

Move to the next token after the '@':

```

8976   \LWR@traceinfo{at column}%
8977   \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

8978   \LWR@traceinfo{about to read the next token:}%
8979   \expandarg%
8980   \StrChar{\LWR@origcolspec}%
8981   {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8982   \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8983   \LWR@traceinfo{have now read the next token}%
8984   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8985   {% left edge of the table:
8986     \LWR@traceinfo{at the left edge}%
8987     \LWR@setexparray{\LWR@colatspec}%
8988     {leftedge}%
8989     {\expandafter\@firstofone\LWR@colparameter}%
8990     \LWR@traceinfo{at the left edge: %
8991     \LWR@getexparray{\LWR@colatspec}{leftedge}}%
8992   }%
8993   {% not at the left edge:
8994     \LWR@traceinfo{not at the left edge}%
8995     \LWR@setexparray{\LWR@colatspec}%
8996     {\arabic{\LWR@tabletotalLaTeXcols}}%

```

```

8997         {\expandafter\@firstofone\LWR@colparameter}%
8998     \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}%
8999     : % space
9000     \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
9001     }%
9002     \let\LWR@colparameter\relax%
9003     \booltrue{LWR@validtablecol}%
9004 }

```

`\LWR@parsebangcolumn`  $\langle$ *this column type* $\rangle$  Handles  $!$ `{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9005 \newcommand*{\LWR@parsebangcolumn}[1]{%
```

Move to the next token after the '!':

```
9006     \LWR@traceinfo{bang column}%
9007     \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```
9008     \LWR@traceinfo{about to read the next token:}%
9009     \expandarg%
9010     \StrChar{\LWR@origcolspec}%
9011         {\arabic{LWR@tablecolspecindex}}{\LWR@colparameter}%
9012     \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9013     \LWR@traceinfo{have now read the next token}%
9014     \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9015     {% left edge of the table:
9016         \LWR@traceinfo{at the left edge}%
9017         \LWR@setexparray{LWR@colbangspec}%
9018             {leftedge}%
9019         {\expandafter\@firstofone\LWR@colparameter}%
9020     }%
9021     {% not at the left edge:
9022         \LWR@traceinfo{not at the left edge}%
9023         \LWR@setexparray{LWR@colbangspec}%
9024             {\arabic{LWR@tabletotalLaTeXcols}}%
9025         {\expandafter\@firstofone\LWR@colparameter}%
9026         \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9027     }%
9028     \let\LWR@colparameter\relax%
9029     \booltrue{LWR@validtablecol}%
9030 }

```

`\LWR@checkbeforeaddclass`  $\langle$ *compared csname* $\rangle$   $\langle$ *css class to add* $\rangle$

```

9031 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9032     \ifcsstrequal{LWR@tempone}{#1}%
9033     {%
9034         \LWR@setexparray{LWR@coladdclass}%
9035             {\arabic{LWR@tabletotalLaTeXcolsnext}}%
9036         { #2}% space is intentional
9037     }%

```

9038 }

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

9039 \newcommand*{\LWR@checkmathcolpar}{%
9040   \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
9041     {%
9042       \PackageError{lwrap}%
9043         {%
9044           Lwrap does not support '$' in column specifiers.\MessageBreak
9045           Specify '$' math for each cell in the column.\MessageBreak
9046           Enter 'h' for more info%
9047         }%
9048       {%
9049         For example, replace '>{$}c<{$}' with 'c', and then\MessageBreak
9050         use '$cell contents$' for each cell in the column.%
9051       }%
9052     }%
9053 }
```

`\LWR@parsebeforecolumn` *{<this column type>}*

Handles `>{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9054 \newcommand*{\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```
9055   \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9056   \expandarg%
9057   \StrChar{\LWR@origcolspec}%
9058     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9059   \fullexpandarg%
```

Error if using `>{$}`, which is not supported by `lwrap`.

```
9060   \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9061   \LWR@setexparray{\LWR@colbeforespec}%
9062     {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
9063     {\expandafter\@firstofone\LWR@colparameter}%
9064 %
9065   \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%
```

If detect `>{\centering\arraybackslash}` or related, add a css class.

```

9066   \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
9067   \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
9068   \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
9069   \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
```

```

9070 \LWR@checkbeforeaddclass{LWR@detect@bfseries}{tdbfseries}
9071 \LWR@checkbeforeaddclass{LWR@detect@bfit}{tdbfit}

9072 \let\LWR@colparameter\relax%
9073 \booltrue{LWR@validtablecol}%
9074 }

```

`\LWR@parseaftercolumn` {<*this column type*>}

Handles <{text}> columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9075 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
9076 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9077 \expandarg%
9078 \StrChar{\LWR@origcolspec}%
9079 \arabic{LWR@tablecolspecindex}[\LWR@colparameter]%
9080 \fullexpandarg%

```

Error if using >{ $\$$ }, which is not supported by `lwarp`.

```
9081 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9082 \LWR@setexparray{LWR@colafterspec}%
9083 \arabic{LWR@tabletotalLaTeXcols}%
9084 \expandafter\@firstofone\LWR@colparameter}%
9085 \let\LWR@colparameter\relax%
9086 \booltrue{LWR@validtablecol}%
9087 }

```

`\LWR@parsebarcolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9088 \newcommand*{\LWR@parsebarcolumn}[1]{%
9089 \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

9090 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9091 {% left edge of the table:
9092 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9093 \ifdefstring{\LWR@tempone}{tvertbarl}%
9094 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9095 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
9096 }%

```



```

9097   {% not at the left edge:
9098     \edef\LWR@tempone{%
9099       \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9100     }%
9101     \ifdefstring{\LWR@tempone}{tvertbarr}%
9102     {%
9103       \LWR@setexparray{LWR@colbarspec}%
9104         {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
9105     }%
9106     {%
9107       \LWR@setexparray{LWR@colbarspec}%
9108         {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
9109     }%
9110   }%
9111   \booltrue{LWR@validtablecol}%
9112 }

```

`\LWR@parsecoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9113 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9114   \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9115   \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9116   {% left edge of the table:
9117     \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9118     \ifdefstring{\LWR@tempone}{tvertbarldash}%
9119     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9120     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
9121   }%
9122   {% not at the left edge:
9123     \edef\LWR@tempone{%
9124       \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9125     }%
9126     \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9127     {\LWR@setexparray{LWR@colbarspec}%
9128       {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9129     {\LWR@setexparray{LWR@colbarspec}%
9130       {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9131   }%
9132   \booltrue{LWR@validtablecol}%
9133 }

```

`\LWR@parsesemicoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@columntype@<char>`, defined by `\LWR@modifycolumntype`.

```

9134 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%

```

Treat ; as a : column:

```
9135 \LWR@parsecoloncolumn{%
9136 }
```

## 75.10 Parsing common column types

`\LWR@parsenormalcolumn` {<*this column type*>}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumn` type definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a lateximage.

The arguments to the column type are absorbed by `\LWR@column` type <char>, defined by `\LWR@modifycolumn` type.

```
9137 \newcommand*{\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9138 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9139 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

9140 \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

9141 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9142 \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9143 \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9144 \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9145 \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9146 \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9147 \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9148 \booltrue{LWR@validtablecol}%
9149 }
9150
9151 \newcommand*{\LWR@print@LWR@parsenormalcolumn}[1]{%
9152
9153 \LWR@formatted{LWR@parsenormalcolumn}
```

## 75.11 Parsing ‘w’ columns

W and w columns are handled via array with `\HTMLnewcolumn` type.

## 75.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn` {<*this column type*>} Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by `\LWR@column` type <char>, defined by `\LWR@modifycolumn` type.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9154 \newcommand*{\LWR@parsestarcolumn}[1]{%}
```

Table 13: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
l	par	mid	bot	r
	par	mid		
	par			

### 75.13 Expanding the star column specifications

`\LWR@expandpreamble`  $\{\langle tabular preamble \rangle\}$

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```
\edef\destination{\the\@temptokena}
```

```
9155 \newcommand*\LWR@expandpreamble}[1]{%
9156   \edef\@tempa{\@temptokena={#1}}%
9157   \@tempa%
9158   \@tempswattrue%
9159   \@whilesw\if@tempswa\fi{%
9160     \@tempswafalse\the\NC@list%
9161   }%
9162 }
```

### 75.14 Parsing the column specifications

#### △ tabular baselines

HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

`\LWR@modifycolumnntype`  $\{\langle 1: column type letter \rangle\} \{\langle 2: number args to ignore \rangle\} \{\langle 3: csname of the cell action \rangle\} \{\langle 4: csname of the multicolumn print type action \rangle\} \{\langle 5: csname of the multicolumn print data action \rangle\}$

Add HTML functionality to an existing print version column type.

```
9163 \newcommand*\LWR@modifycolumnntype}[5]{%
9164   \LWR@traceinfo{\LWR@modifycolumnntype !#1!#2!#3!#4!#5!}%
9165   \LWR@traceinfo{\LWR@modifycolumnntype #1}%
9166   \edef\@tempa{%
9167     \noexpand\csdef{\LWR@columnntype@#1}{%
9168       \noexpand\@nameuse{#3}{#1}%
9169     \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%
9170   }
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<column type>`.

---

- l, r, c:** Converted to table cells without paragraph tags.  
Uses css `vertical-align: middle` so that top or bottom-aligned cells may go above or below this cell.
  - p:** Converted to table cells with paragraph tags. Ref: Table 13,  $\LaTeX$  places the top line of a parbox aligned with the rest of the text line, so css `vertical-align: bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\LaTeX$  baselines.
  - m:** With paragraph tags, css `vertical-align: middle`.
  - b:** With paragraph tags, css `vertical-align: top` so that the bottom of the text is closest to the middle of the text line.
  - w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
  - P, M, B:** Horizontally-centered versions.
  - S:** Treated as '`c`'. Ignores optional argument. From the `siunitx` package.
  - D:** Treated as '`c`'. From the `dcolumn` package.
  - @, !, >, <:** One each, in that order.
  - |:** Vertical rule.
  - Unknown:** Converted to '`l`'.
  - \newcolumn type:** Expands to its replacement text.
  - \HTMLnewcolumn type:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

---

**<coltype>**: The single-letter column type, such as c or X.

**Created by \LWR@modifycolumn****type**: Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@column****type@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@column****type@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@column****type@mcdata@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumn****type**: From array.

**\NC@find@<coltype>**: Internally used to parse the column specifier.

**\NC@rewrite@<coltype>**: Stores the print-mode replacement text.

**Created by \HTMLnewcolumn****type**: From lwarp.

**\LWR@print@NC@rewrite@<coltype>**: Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>**: Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>**: Redefined to use the print or HTML version.

---

```

9170         }%
9171         \noexpand\csdef{\LWR@column@mctype@#1}{%
9172             \noexpand\@nameuse{#4}{#1}%
9173         }%
9174         \noexpand\csdef{\LWR@column@mcdata@#1}{%
9175             \noexpand\@nameuse{#5}{#2}%
9176         }%
9177     }%
9178     \@tempa%
9179     \LWR@traceinfo{\LWR@modifycolumn done}%
9180 }

9181 \LWR@modifycolumn{L}{0}{\LWR@parsenormalcolumn}
9182     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9183
9184 \LWR@modifycolumn{c}{0}{\LWR@parsenormalcolumn}
9185     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9186
9187 \LWR@modifycolumn{r}{0}{\LWR@parsenormalcolumn}
9188     {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}

9189 \LWR@modifycolumn{@}{0}{\LWR@parseatcolumn}
9190     {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9191
9192 \LWR@modifycolumn{!}{0}{\LWR@parsebangcolumn}
9193     {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9194
9195 \LWR@modifycolumn{>}{0}{\LWR@parsebeforecolumn}

```

```

9196   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9197
9198 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9199   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9200
9201 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9202   {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9203
9204 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9205   {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9206
9207 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9208   {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9209 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9210   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9211
9212 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9213   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9214
9215 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9216   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

```

A star column:

```

9217 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9218   {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype {<col type>} [<num args>] [<optional arg>] {<replacement text>}`

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
  {\NC@find <replacement text>}
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9219 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{%
9220   \IfValueTF{#3}
9221   {
9222     \expandafter\newcommand\expandafter*%
9223     \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9224     \LWR@formatted{NC@rewrite@#1}%
9225   }
9226   {
9227     \expandafter\newcommand\expandafter*%
9228     \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9229     \LWR@formatted{NC@rewrite@#1}%
9230   }
9231 }

9232 \end{warpHTML}

```

for PRINT output: 9233 \begin{warpprint}

```
9234 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{}

```

```
9235 \end{warpprint}

```

**for HTML output:** 9236 \begin{warpHTML}

```
\LWR@parsetablecols {<colspecs>}

```

Scans the column specification left to right.

Builds \LWR@tablecolspec with the final specification, one L<sup>A</sup>T<sub>E</sub>X column per entry. The final number of L<sup>A</sup>T<sub>E</sub>X columns in each row is stored in LWR@tabletotalLaTeXcols, which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
9237 \newcommand*{\LWR@parsetablecols}[1]{%
9238   \LWR@traceinfo{\LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9239   \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```
9240   \expandarg%
9241   \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%

```

Expand any star columns:

```
9242   \LWR@expandpreamble{\LWR@origcolspec}%
9243   \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, LWR@tablecolspec, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
9244   \defcounter{\LWR@tabletotalLaTeXcols}{0}%
9245   \defcounter{\LWR@tabletotalLaTeXcolsnxt}{1}%
9246   \LWR@setexparray{\LWR@colatspec}{leftedge}{}%
9247   \LWR@setexparray{\LWR@colatspec}{1}{}%
9248   \LWR@setexparray{\LWR@colatspec}{2}{}%
9249   \LWR@setexparray{\LWR@colatspec}{3}{}%
9250   \LWR@setexparray{\LWR@colbangspec}{leftedge}{}%
9251   \LWR@setexparray{\LWR@colbangspec}{1}{}%
9252   \LWR@setexparray{\LWR@colbangspec}{2}{}%
9253   \LWR@setexparray{\LWR@colbangspec}{3}{}%
9254   \LWR@setexparray{\LWR@colbeforespec}{1}{}%
9255   \LWR@setexparray{\LWR@colbeforespec}{2}{}%
9256   \LWR@setexparray{\LWR@colbeforespec}{3}{}%
9257   \LWR@setexparray{\LWR@colafterspec}{1}{}%
9258   \LWR@setexparray{\LWR@colafterspec}{2}{}%
9259   \LWR@setexparray{\LWR@colafterspec}{3}{}%
9260   \LWR@setexparray{\LWR@colbarspec}{leftedge}{}%
9261   \LWR@setexparray{\LWR@colbarspec}{1}{}%
9262   \LWR@setexparray{\LWR@colbarspec}{2}{}%

```

```

9263 \LWR@setexparray{LWR@colbarspec}{3}{}%
9264 \LWR@setexparray{LWR@coladdclass}{1}{}%
9265 \LWR@setexparray{LWR@coladdclass}{2}{}%
9266 \LWR@setexparray{LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```

9267 \defcounter{LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9268 \expandarg%
9269 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9270 \fullexpandarg%
9271 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9272 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```

9273 \boolfalse{LWR@opttablecol}%

```

Scan through the column specifications:

```

9274 \whileboolexpr{%
9275     not test{%
9276         \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
9277             {\value{LWR@tablecolspecwidth}}%
9278     }%
9279 }%
9280 {%

```

Place the next single-character column type into `\LWR@strresult`:

```

9281 \expandarg%
9282 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
9283 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
9284 \fullexpandarg%

```

Not yet found a valid column type:

```

9285 \boolfalse{LWR@validtablecol}%

```

Skip over any optional arguments, such as `siunitx S` column:

```

9286 \IfStrEq{\LWR@strresult}[]{\booltrue{LWR@opttablecol}}{%

```

Throw away anything found inside the optional argument:

```

9287 \ifbool{LWR@opttablecol}%
9288 {}% inside an optional argument
9289 {% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

9290 \ifcsdef{LWR@columnntype@\LWR@strresult}%
9291     {\csuse{LWR@columnntype@\LWR@strresult}}%
9292     {}%

```



If an unknown column type, use l:

```

9293     \ifbool{LWR@validtablecol}{}%
9294         \LWR@traceinfo{invalid column type: \LWR@strresult}%
9295         \LWR@parsenormalcolumn{l}%
9296     }%
9297 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

9298     \IfStrEq{\LWR@strresult}{\boolfalse{LWR@opttablecol}}}%

```

Move to the next character:

```

9299     \defaddtcounter{LWR@tablecolspecindex}{1}%
9300     }% whiledo
9301 }%

```

## 75.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```

9302 \@ifundefined{rownum}{\newcount\rownum}{}

```

`\@rowcolors` Emulated in case `xcolor` is not used.

```

9303 \newcommand*\@rowcolors{}

```

`\@rowcol@lors` Emulated in case `xcolor` is not used.

```

9304 \newcommand*\@rowcol@lors{}

```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```

9305 \newcommand*\LWR@xcolorrowHTMLcolor{}

```

`\LWR@columnHTMLcolor` `HTML`style code for the column color.

```

9306 \def\LWR@columnHTMLcolor{}

```

`\LWR@rowHTMLcolor` `HTML`style code for the row color.

```

9307 \def\LWR@rowHTMLcolor{}

```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
9308 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
9309 \newcommand*\LWR@ruleHTMLcolor{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9310 \newcommand*\rowcolor{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
9311 \newcommand{\arrayrulecolor}[2][named]{}
```

```
9312 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
9313 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
9314 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 75.16 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9315 \newcommand*\LWR@maybenewtablerow
```

```
9316 {%
```

```
9317   \ifbool{LWR@startedrow}%
```

```
9318     }% started the row
```

```
9319     {% not started the row
```

Pre-compute the `aria-hidden` attribute, used to hide from screen readers the final row if it is only used to create the bottom border:

```
9320     \ifbool{LWR@tabularfinalrow}%
```

```
9321       {%
```

```
9322         \renewcommand*\LWR@tempone%
```

```
9323           { aria-hidden=\textquotedbl{}true\textquotedbl}%
```

```
9324         }%
```

```
9325       }%
```

```
9326     \renewcommand*\LWR@tempone{}%
```

```
9327     }%
```

Start a new row if doing `\hline`:

```

9328     \ifboolexpr{%
9329         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9330         test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
9331     }%
9332     {%
9333         \LWR@htmltag{%
9334             tr %
9335                 class=\textquotedbl{}hline\textquotedbl%
9336                 \LWR@tempone% aria-hidden
9337         }%
9338         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9339         \booltrue{LWR@startedrow}%
9340         \booltrue{LWR@intabularmetadata}%
9341     }%

```

If not doing `\hline`, start a row if doing a top or bottom rule:

```

9342     {% not doing hline
9343         \ifbool{LWR@doingtbrule}%
9344     {%
9345         \ifdefvoid{\LWR@ruleHTMLcolor}{%
9346             \LWR@htmltag{%
9347                 tr %
9348                     class=\textquotedbl{}tbrule\textquotedbl%
9349                     \LWR@tempone% aria-hidden
9350             }%
9351         }{%
9352             \LWR@htmltag{%
9353                 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9354                     style=\textquotedbl{}border-top: 1px solid % space
9355                     \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9356                     \LWR@tempone% aria-hidden
9357             }%
9358         }%
9359         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9360         \booltrue{LWR@startedrow}%
9361         \booltrue{LWR@intabularmetadata}%
9362     }%
9363     {%

```

If not the final row, start a new row:

```

9364         \ifbool{LWR@tabularfinalrow}%
9365     }%
9366     {%
9367         \LWR@htmltag{tr}\LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9368             \booltrue{LWR@startedrow}%
9369             \booltrue{LWR@intabularmetadata}%
9370             }%
9371         }%
9372     }% end of not doing hline
9373 }% end of not started the row
9374 }

```

## 75.17 Printing vertical bar tags

`\LWR@printbartag` {<*index*>}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9375 \newcommand*{\LWR@printbartag}[1]{%
9376     \LWR@traceinfo{LWR@printbartag !#1!}%
9377     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9378     {}% muting or empty
9379     {% not muting
9380         \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{#1}}%
9381         \ifdefempty{\LWR@tempone}{\LWR@tempone}%
9382     }% not muting
9383     \LWR@traceinfo{LWR@printbartag done}%
9384 }

```

## 75.18 Printing @ or ! tags

`\LWR@printatbang` {<*at — or — bang*>} {<*index*>}

```

9385 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

9386     \xdef\LWR@atbangspec{\LWR@getexparray{LWR@col#1spec}{#2}}%
9387     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9388     \ifdefempty{\LWR@atbangspec}%
9389     {}%
9390     {% not empty
9391         \LWR@htmltag{%
9392             td class=\textquotedbl{}td#1%
9393             \LWR@subaddcmidruletrim{}{}%
9394             \LWR@printbartag{#2}%
9395             \textquotedbl{}%
9396             \LWR@tdstartstyles%
9397             \LWR@addcmidrulewidth%
9398             \LWR@addcdashline%
9399             \LWR@addtabularrulecolors%
9400             \LWR@tdendstyles%
9401         }%

```

Create an empty cell if muting for the `\bottomrule`:

```

9402     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9403         {}%
9404         {\LWR@atbangspec}%
9405 %
9406     \LWR@htmltag{/td}\LWR@orignewline%
9407     \global\booltrue{LWR@tabularcelladded}%
9408     }% not empty
9409 }%

```

`\LWR@addleftmostbartag`

```

9410 \newcommand*{\LWR@addleftmostbartag}{%
9411     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}{%
9412         \LWR@printbartag{leftedge}%
9413     }{%
9414 }

```

`\LWR@tabularleftedge`

```

9415 \newcommand*{\LWR@tabularleftedge}{%
9416     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
9417     {%
9418         \LWR@printatbang{at}{leftedge}%
9419         \LWR@printatbang{bang}{leftedge}%
9420     }% left edge
9421     {}% not left edge
9422 }

```

## 75.19 Cell opening tag

`\LWR@thiscolspec` Temporary storage.

```

9423 \newcommand*{\LWR@thiscolspec}{}

```

`\LWR@tabledatasinglecolumn` Print a table data opening tag with style for alignment and color.

```

9424 \newcommand*{\LWR@tabledatasinglecolumn}{%
9425 {%
9426     \LWR@traceinfo{LWR@tabledatasinglecolumn}%
9427     \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

9428     \ifbool{LWR@intabularmetadata}%
9429     {%

```

If have found the end of tabular command, do not create the next data cell:

```

9430     \ifbool{LWR@exitingtabular}{%
9431     }% not exiting tabular

```

Print the @ and ! contents before first column:

```

9432     \LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```
9433         \xdef\LWR@strresult{%
9434         \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9435         }%
```

Print the start of a new table data cell:

```
9436         \LWR@traceinfo{LWR@tabledatasinglecolumn: about to print td tag}%
9437         \LWR@htmltag{%
9438         td class=\textquotedbl{}td%
```

Append this column's spec:

```
9439         \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9440         \LWR@addcmidruletrim%
9441         \LWR@addleftmostbartag%
9442         \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9443         \LWR@getexparray{LWR@coladdclass}%
9444         {\arabic{LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9445         \textquotedbl{}%
```

Add styles for rules, alignment:

```
9446         \LWR@tdstartstyles%
9447         \LWR@addcmidrulewidth%
9448         \LWR@addcdashline%

9449         \xdef\LWR@thiscolspec{%
9450         \LWR@getexparray{LWR@tablecolspec}%
9451         {\arabic{LWR@tableLaTeXcolindex}}%
9452         }%
9453         \LWR@addformatwpalignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9454         \LWR@addtabulararrowcolor%
9455         \LWR@addtabularrulecolors%

9456         \LWR@tdendstyles%
9457         }% HTML td
9458         \LWR@traceinfo{LWR@tabledatasinglecolumn: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9459         \ifboolexpr{%
9460         test{ \ifdefstring{\LWR@strresult}{p} } or
```

```

9461         test{ \ifdefstring{\LWR@strresult}{m} } or
9462         test{ \ifdefstring{\LWR@strresult}{b} }
9463     }%
9464     {% allow pars
9465     \LWR@traceinfo{\LWR@tabledatasinglecolumn: about to LWR@startpars}%
9466         \booltrue{\LWR@tableparcell}%
9467         \LWR@startpars%
9468     \LWR@traceinfo{\LWR@tabledatasinglecolumn: done with LWR@startpars}%
9469     }% allow pars
9470     }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9471         \ifbool{expr}{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9472         }%
9473         {%
9474         \LWR@getexparray{\LWR@colbefore}{{\arabic{\LWR@tableLaTeXcolindex}}}%
9475         }%
9476         \boolfalse{\LWR@intabularmetadata}%
9477     }% not exiting tabular
9478     }% in tabular metadata
9479     \LWR@traceinfo{\LWR@tabledatasinglecolumn: done}%
9480 }%

```

## 75.20 Midrules

`LWR@midrules` `LWR@midrules` is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

`LWR@trimlrules` `LWR@trimlrules` is a data array (section 42) of columns containing `l` if a midrule should be left trimmed for each column.

`LWR@trimrrules` `LWR@trimrrules` is a data array (section 42) of columns containing `r` if a midrule should be right trimmed for each column.

`LWR@cdashlines` `LWR@cdashlines` is a data array (section 42) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`\LWR@heavyrulewidth` (*Len*) The default width of the rule.

```

9481 \newlength{\LWR@heavyrulewidth}
9482 \setlength{\LWR@heavyrulewidth}{.08em}

```

`\LWR@lightrulewidth` (*Len*) The default width of the rule.

```

9483 \newlength{\LWR@lightrulewidth}
9484 \setlength{\LWR@lightrulewidth}{.05em}

```

`\LWR@cmidrulewidth` (*Len*) The default width of the rule.

```

9485 \newlength{\LWR@cmidrulewidth}
9486 \setlength{\LWR@cmidrulewidth}{.03em}

```

`\LWR@thiscmidrulewidth` (*Len*) The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
9487 \newlength{\LWR@thiscmidrulewidth}
9488 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
9489 \newcommand*\LWR@clearmidrules}
9490 {%
9491   \defcounter{LWR@midrulecounter}{1}%
9492   \whileboolexpr{%
9493     not test{%
9494       \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9495         {\value{LWR@tabletotalLaTeXcols}}%
9496     }%
9497   }%
9498   {%
9499     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{\0pt}%
9500     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9501     \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9502     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9503     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9504     \defaddtocounter{LWR@midrulecounter}{1}%
9505   }%
9506 }
```

`\LWR@subcmidrule`  $\langle width \rangle$   $\langle trim \rangle$   $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9507 \newcommand*\LWR@subcmidrule}[4]{%
9508   \defcounter{LWR@midrulecounter}{#3}%
9509   \whileboolexpr{%
9510     not test {%
9511       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9512     }%
9513   }%
9514   {%
9515     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9516     \defaddtocounter{LWR@midrulecounter}{1}%
9517   }% whiledo
9518   \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
9519   \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
9520   \booltrue{LWR@doingcmidrule}%
9521 }
```

`\LWR@docmidrule`  $[\langle width \rangle]$   $(\langle trim \rangle)$   $\langle leftcolumn-rightcolumn \rangle$

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.



```

9522 \NewDocumentCommand{\LWR@docmidrule}
9523   {O{\LWR@cmidrulewidth} D()} >{\SplitArgument{1}{-}}m}
9524   {\LWR@subcmidrule{#1}{#2}{#3}}

```

`\LWR@subcdashline`  $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```

9525 \newcommand*{\LWR@subcdashline}[2]{%
9526   \defcounter{\LWR@midrulecounter}{#1}%
9527   \whileboolexpr{%
9528     not test {%
9529       \ifnumcomp{\value{\LWR@midrulecounter}}{>}{#2}%
9530     }%
9531   }%
9532   {%
9533     \LWR@setexparray{\LWR@cdashlines}{\arabic{\LWR@midrulecounter}}{Y}%
9534     \defaddtocounter{\LWR@midrulecounter}{1}%
9535   }% whiledo
9536   \booltrue{\LWR@doingcmidrule}%
9537 }

```

`\LWR@docdashline`  $\langle leftcolumn-rightcolumn \rangle$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

9538 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
9539 {%
9540   \LWR@subcdashline#1%
9541 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

9542 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

9543 \newcommand*{\LWR@tdaddstyle}{%
9544   \ifbool{\LWR@tdhavecellstyle}%
9545     {; }%
9546     { style=\textquotedbl}%
9547   \booltrue{\LWR@tdhavecellstyle}%
9548 }

```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9549 \newcommand*{\LWR@tdendstyles}{%
9550   \ifbool{\LWR@tdhavecellstyle}%
9551     {%
9552       \textquotedbl%
9553       \boolfalse{\LWR@tdhavecellstyle}%
9554     }%
9555 }

```

`\LWR@subaddcmidruletrim`  $\langle\{lefttrim\}\rangle$   $\langle\{righttrim\}\rangle$  Adds a `\cmidrule` with optional trim.

```

9556 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9557   \setlength{\LWR@templengthone}{%
9558     \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9559   }%
9560   \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9561     {%

```

Print the class with left and right trim letters appended:

```

9562     \LWR@origtilde tdrule#1#2%

```

Remember the width of the rule:

```

9563     \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9564     }%
9565     {%
9566     \setlength{\LWR@thiscmidrulewidth}{0pt}%
9567     }%
9568 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9569 \newcommand*{\LWR@addcmidruletrim}{%
9570   \LWR@subaddcmidruletrim%
9571   {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9572   {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9573 }

```

`\LWR@addrulewidth`  $\langle\{thiswidth\}\rangle$   $\langle\{defaultwidth\}\rangle$

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9574 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9575   \ifboolexpr{%
9576     test{\ifdimcomp{#1}{=}{0pt}} or
9577     (
9578       ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
9579       and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9580     )
9581   }%
9582   }% default width and color
9583   {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

9584     \LWR@forceminwidth{#1}%

```

Begin adding another style:

```
9585 \LWR@tdaddstyle%
```

The style itself:

```
9586 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9587 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9588 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9589 {\LWR@origpound{A0A0A0}%
9590 % lightrule or heavier
9591 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9592 {\LWR@origpound{808080}%
9593 {black}%
9594 }% lightrule or heavier
9595 }{%
9596 \LWR@origpound\LWR@ruleHTMLcolor%
9597 }%
9598 }% custom width and/or color
9599 }
```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9600 \newcommand{\LWR@addcmidrulewidth}{%
9601 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9602 }
```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9603 \newcommand{\LWR@addcdashline}{%
9604 \edef\LWR@tempone{%
9605 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9606 }%
9607 \ifdefstring{\LWR@tempone}{Y}{%
9608 \LWR@tdaddstyle%
9609 border-top: 1pt dashed %
9610 \ifdefvoid{\LWR@ruleHTMLcolor}%
9611 {black}%
9612 {\LWR@origpound\LWR@ruleHTMLcolor}%
9613 }{%
9614 }
```

`\LWR@WPcell` `{<text-align>}{<vertical-align>}`

```
9615 \newcommand*{\LWR@WPcell}[2]{%
9616 \LWR@tdaddstyle%
9617 \LWR@print@embox{text-align:#1}; \LWR@print@embox{vertical-align:#2}%
9618 }
```

`\LWR@addformatwpalignment` `{<colspec>}`

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9619 \newcommand*{\LWR@addformatwpalignment}[1]{%
9620   \ifbool{FormatWP}{%
9621     \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
9622     \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
9623     \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
9624     \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
9625     \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
9626     \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
9627   }}%
9628 }

```

## 75.21 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each `tabular`.

```

9629 \newcommand*{\LWR@addtabularrowcolor}{%
9630   \ifbool{LWR@tabularmutemods}{}%
9631   \ifdefvoid{\LWR@rowHTMLcolor}{%
9632     \ifdefvoid{\LWR@xcolorrowHTMLcolor}{}%
9633     {% xcolor row color
9634       \LWR@tdaddstyle%
9635       background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9636     }%
9637   }%
9638   {% explicit row color
9639     \LWR@tdaddstyle%
9640     background:\LWR@origpound\LWR@rowHTMLcolor%
9641   }%
9642 }%
9643 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

9644 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

9645   \ifbool{expr}{%
9646     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9647     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9648     bool{LWR@doingtbrule}%
9649   }{%

```

If there is a no custom color:

```

9650     \ifdefvoid{\LWR@ruleHTMLcolor}%
9651     {%
9652       \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9653       {%
9654         \LWR@tdaddstyle%
9655         border-top: 4px double%
9656       }% else

```

```

9657         \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9658         {%
9659             \LWR@tdaddstyle%
9660             border-top: 2px dashed%
9661         }{% else
9662         \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9663         {%
9664             \LWR@tdaddstyle%
9665             border-top: 1px dashed%
9666         }}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9667         }%

```

If there is a custom color:

```

9668         {%
9669         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9670         {%
9671             \LWR@tdaddstyle%
9672             border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9673         }{% else
9674         \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9675         {%
9676             \LWR@tdaddstyle%
9677             border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9678         }{% else
9679         \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9680         {%
9681             \LWR@tdaddstyle%
9682             border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9683         }{% else
9684             \LWR@tdaddstyle%
9685             border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9686         }}%
9687         }%
9688     }{%
9689 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9690 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9691     \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9692     \ifbool{LWR@tabularmutemods}{}{%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9693         \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```
9694         \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9695         \ifdefstring{\LWR@tempone}{tvertbarl}{%
9696             \LWR@tdaddstyle%
9697             border-left: 1px solid % space
9698             \LWR@vertruleHTMLcolor%
9699         }{}%
9700         \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9701             \LWR@tdaddstyle%
9702             border-left: 4px double % space
9703             \LWR@vertruleHTMLcolor%
9704         }{}%
9705         \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9706             \LWR@tdaddstyle%
9707             border-left: 1px dashed % space
9708             \LWR@vertruleHTMLcolor%
9709         }{}%
9710         \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9711             \LWR@tdaddstyle%
9712             border-left: 2px dashed % space
9713             \LWR@vertruleHTMLcolor%
9714         }{}%
9715     }{}%
```

Possibly add a right vertical rule for this cell:

```
9716         \edef\LWR@tempone{%
9717             \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9718         }%
9719         \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9720             \LWR@tdaddstyle%
9721             border-right: 1px solid \LWR@vertruleHTMLcolor%
9722         }{}%
9723         \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9724             \LWR@tdaddstyle%
9725             border-right: 4px double \LWR@vertruleHTMLcolor%
9726         }{}%
9727         \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9728             \LWR@tdaddstyle%
9729             border-right: 1px dashed \LWR@vertruleHTMLcolor%
9730         }{}%
9731         \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9732             \LWR@tdaddstyle%
9733             border-right: 2px dashed \LWR@vertruleHTMLcolor%
9734         }{}%
9735     }%
9736 }
```

`\LWR@subaddtabularcellcolor` {<*html color*>}

```
9737 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9738     \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
```

```

9739     style=\textquotedbl{}%
9740     background:\LWR@origpound{ }#1 %
9741     \textquotedbl\ %
9742   }% space
9743   \defaddtocounter{\LWR@cellcolordepth}{1}%
9744 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9745 \newcommand*{\LWR@addtabularcellcolor}{%
9746   \ifdefvoid{\LWR@cellHTMLcolor}%
9747   {%
9748     \ifdefvoid{\LWR@rowHTMLcolor}%
9749     {%
9750       \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9751       {%
9752         \ifdefvoid{\LWR@columnHTMLcolor}%
9753         {%
9754           {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9755         }%
9756         {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9757       }%
9758       {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9759     }%
9760     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9761 }

```

## 75.22 Multicolumns

### 75.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal` {<col type>}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9762 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9763   #1%
9764   \boolfalse{\LWR@mcolvertbaronleft}%
9765 }

```

`\LWR@printmccoltype@ignore` {<col type>}

This type does not print a multi-column data cell.

```

9766 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar` {<col type>}

Adds a left or right vertical bar.

```

9767 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9768   \ifbool{\LWR@mcolvertbaronleft}%
9769     {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
9770     {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
9771 }

```

`\LWR@printmccoltype@colon`  $\langle col\ type\rangle$

Adds a left or right vertical bar.

```
9772 \newcommand*\LWR@printmccoltype@colon[1]{%
9773   \ifbool{LWR@mcolvertbaronleft}%
9774     {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9775     {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9776 }
```

`\LWR@printmccoltype@semicolon`  $\langle col\ type\rangle$

Adds a left or right vertical bar.

```
9777 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

`\LWR@printmccoltype`  $\langle colspec\rangle$  Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@columnmtype@mctype@<type>` is defined by `\LWR@modifycolumnmtype`.

```
9778 \newcommand*\LWR@printmccoltype[1]{%
9779   \LWR@traceinfo{lw@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9780   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9781   \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9782   \ifcsdef{LWR@columnmtype@mctype@\LWR@strresult}%
9783     {\csuse{LWR@columnmtype@mctype@\LWR@strresult}}%
9784     {\boolfalse{LWR@mcolvertbaronleft}}%
9785   \LWR@traceinfo{lw@printmccoltype done}%
9786 }
```

`\LWR@printmccoldata@other`  $\langle num\ args\ to\ skip\rangle$   $\langle entire\ colspec\rangle$

For @, !, >, <, print the next token without paragraph tags:

```
9787 \newcommand*\LWR@printmccoldata@other[2]{%
9788   \defaddtocounter{LWR@tablemulticolspos}{1}%
9789   \StrChar{#2}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9790   \LWR@strresult%
```

A valid column data type was found:

```
9791   \booltrue{LWR@validtablecol}%
9792 }
```



`\LWR@printmccoldata@skip`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

Nothing to print for this column type.

```
9793 \newcommand*\LWR@printmccoldata@skip[2]{%
9794   \defadddtocounter{LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
9795   \booltrue{LWR@validtablecol}%
9796 }
```

For `\LWR@printmccoldata@. . .`,  $\langle num\ args\ to\ skip \rangle$  is provided by `\LWR@column@mcdata@<coltype>` when it was defined by `\LWR@modifycolumn@type`. `\entire colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@column@mcdata@<coltype>`.

`\LWR@printmccoldata@normal`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

```
9797 \newcommand*\LWR@printmccoldata@normal[2]{%
9798   \LWR@multicoltext%
9799   \defadddtocounter{LWR@tablemulticolspos}{#1}%
9800 }
```

`\LWR@printmccoldata@paragraph`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

```
9801 \newcommand*\LWR@printmccoldata@paragraph[2]{%
9802   \LWR@startpars%
9803   \LWR@multicoltext%
9804   \defadddtocounter{LWR@tablemulticolspos}{#1}%
9805   \LWR@stoppars%
9806 }
```

`\LWR@printmccoldata`  $\langle entire\ colspec \rangle$

Print the data for any valid column type found.

```
9807 \newcommand*\LWR@printmccoldata[1]{%
9808   \LWR@traceinfo{LWR@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9809   \boolfalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9810   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9811   \edef\LWR@printmccoldata@token{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9812   \ifcsdef{LWR@column@mcdata@\LWR@printmccoldata@token}%
9813     {\csuse{LWR@column@mcdata@\LWR@printmccoldata@token}{#1}}%
9814     {}%
```

If an unknown column type, print the text:

```
9815 \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%
```

Tracing:

```
9816 \LWR@traceinfo{lwr@printmccoldata done}%
9817 }
```

```
\parsemulticolumnalignment {<1: colspec>} {<2: printresults cname>}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
9818 \newcommand*\LWR@parsemulticolumnalignment}[2]{%
9819 \defcounter{LWR@tablemulticolspos}{1}%
9820 \StrLen{#1}[\LWR@strresult]%
9821 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9822 \whileboolexpr{%
9823 not test {%
9824 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
9825 {\value{LWR@tablemulticolwidth}}%
9826 }%
9827 }%
9828 {%
```

Execute the assigned print function for each token in the column spec:

```
9829 \csuse{#2}{#1}%
```

Move to the next token in the column spec:

```
9830 \defaddtocounter{LWR@tablemulticolspos}{1}%
9831 }%
9832 }
```

### 75.22.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9833 \newcommand*\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9834 \ifbool{LWR@tabularmutemods}{}{}%
```

Left side:

```
9835 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9836 \LWR@tdaddstyle%
9837 border-left: 1px solid \LWR@vertruleHTMLcolor%
```

```

9838     }{}%
9839     \ifnumcomp{\value{LWR@mcolvertblarsl}}{>}{1}{%
9840         \LWR@tdaddstyle%
9841         border-left: 4px double \LWR@vertruleHTMLcolor%
9842     }{}%
9843     \ifnumcomp{\value{LWR@mcolvertblarsldash}}{=}{1}{%
9844         \LWR@tdaddstyle%
9845         border-left: 1px dashed \LWR@vertruleHTMLcolor%
9846     }{}%
9847     \ifnumcomp{\value{LWR@mcolvertblarsldash}}{>}{1}{%
9848         \LWR@tdaddstyle%
9849         border-left: 2px dashed \LWR@vertruleHTMLcolor%
9850     }{}%

```

Right side:

```

9851     \ifnumcomp{\value{LWR@mcolvertblarsr}}{=}{1}{%
9852         \LWR@tdaddstyle%
9853         border-right: 1px solid \LWR@vertruleHTMLcolor%
9854     }{}%
9855     \ifnumcomp{\value{LWR@mcolvertblarsr}}{>}{1}{%
9856         \LWR@tdaddstyle%
9857         border-right: 4px double \LWR@vertruleHTMLcolor%
9858     }{}%
9859     \ifnumcomp{\value{LWR@mcolvertblarsrdash}}{=}{1}{%
9860         \LWR@tdaddstyle%
9861         border-right: 1px dashed \LWR@vertruleHTMLcolor%
9862     }{}%
9863     \ifnumcomp{\value{LWR@mcolvertblarsrdash}}{>}{1}{%
9864         \LWR@tdaddstyle%
9865         border-right: 2px dashed \LWR@vertruleHTMLcolor%
9866     }{}%
9867     }%
9868 }

```

```
9869 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
9870 \newcounter{LWR@lastmulticolumn}

```

```
\LWR@domulticolumn [1: vpos] [2: #rows] [3: numLaTeXcols] [4: numHTMLcols] [5: colspec]
  [6: text]

```

```

9871 \NewDocumentCommand{\LWR@domulticolumn}{o m m m +m}{%
9872     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

9873     \renewcommand{\LWR@multicoltext}{%
9874         #6%
9875         \booltrue{LWR@validtablecol}%
9876     }%

```

Expand the preamble and save it.

```
9877 \LWR@expandpreamble{#5}%
9878 \edef\LWR@origmccolspec{\the\@temptokena}%
```

Compute the rightmost column to be included. This is used to create the right trim.

```
9879 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9880 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9881 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9882 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9883 \LWR@htmltag{%
9884     td colspan=\textquotedbl#4\textquotedbl\ %

9885     \IfValueT{#2}{ % rows?
9886         rowspan=\textquotedbl#2\textquotedbl\ %
9887     }%

9888     class=\textquotedbl{ }td%
```

Print the column type and vertical bars:

```
9889 \defcounter{LWR@mcolvertbarsl}{0}%
9890 \defcounter{LWR@mcolvertbarsr}{0}%
9891 \defcounter{LWR@mcolvertbarsldash}{0}%
9892 \defcounter{LWR@mcolvertbarsrdash}{0}%
9893 \booltrue{LWR@mcolvertbaronleft}%
9894 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoltype}%
```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9895 \LWR@subaddcmidruletrim%
9896     {%
9897         \LWR@getexparray{LWR@trimlrules}%
9898         {\arabic{LWR@tableLaTeXcolindex}}%
9899     }%
9900     {%
9901         \LWR@getexparray{LWR@trimrrules}%
9902         {\arabic{LWR@lastmulticolumn}}%
9903     }%
```

Also add vertical bar class.

```
9904 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
9905 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
9906 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
9907 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
9908 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarsldash}{}%
9909 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
9910     { tvertbarldoubledash}{}%
```

```

9911     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}1{ tvertbarrdash}{}%
9912     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}1{%
9913         { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

9914     \textquotedbl{}%

9915     \LWR@tdstartstyles%

```

Style for vertical position:

```

9916     \IfValueT{#1}{% vpos?
9917         \ifstrequal{#1}{b}%
9918         {%
9919             \LWR@tdaddstyle%
9920             \LWR@print@mbbox{vertical-align:bottom}%
9921         }{}%
9922         \ifstrequal{#1}{t}%
9923         {%
9924             \LWR@tdaddstyle%
9925             \LWR@print@mbbox{vertical-align:top}%
9926         }{}%
9927     }% vpos?

```

Style for row colors:

```

9928     \LWR@addtabulararrowcolor%

```

Other styles:

```

9929     \LWR@addcmidrulewidth%
9930     \LWR@addcdashline%
9931     \LWR@addtabularhrulecolor%
9932     \LWR@addmulticolvertulecolor%
9933     \LWR@addformatwpalignment{\LWR@origmccolspec}%
9934     \LWR@tdendstyles%
9935     }% end of the opening table data tag
9936     \boolfalse{LWR@intabularmetadata}%
9937     \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
9938 }

```

### 75.22.3 Multicolumn

`\LWR@htmlmulticolumn`  $\langle \{numcols\} \rangle$   $\langle \{alignment\} \rangle$   $\langle \{text\} \rangle$

```

9939 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9940 {}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9941     \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```

9942     \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9943 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9944 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9945 \booltrue{LWR@skipatbang}%
9946 }
```

#### 75.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9947 \providecommand*{\LTcapttype}{table}
```

```
\LWR@longtabledatacaptiontag * [<toc entry>] {<caption>}
```

```
9948 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9949 {%
```

Remember the latest name for \nameref:

```
9950 \IfValueTF{#2}{% optional given?
9951 \ifblank{#2}{% optional empty?
9952 {\LWR@setlatestname{#3}}{% empty
9953 {\LWR@setlatestname{#2}}{% given and non-empty
9954 }% optional given
9955 {\LWR@setlatestname{#3}}{% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9956 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
9957 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9958 {\arabic{LWR@tabhtmlcoltotal}}%
9959 {p}%
9960 {% \LWR@domulticolumn
9961 \IfBooleanTF{#1}{% star?
```

Star version, show a caption but do not make a LOT entry:

```
9962 {% yes star
9963 \LWR@figcaption%
9964 \LWR@isolate{#3}%
9965 \endLWR@figcaption%
9966 }%
9967 {% No star:
```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

9968     \ifbool{LWR@starredlongtable}%
9969     {%
9970         \ifblank{#2}% TOC entry
9971         }%
9972     {%
9973         \refstepcounter{\LTcaption}%
9974         \protected@edef\@currentlabel{%
9975             \@nameuse{p@\LTcaption}\@nameuse{the\LTcaption}%
9976         }%
9977     }%
9978     }{%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9979     \LWR@figcaption%
9980     \LWR@isolate{\@nameuse{fnum@\LTcaption}}%
9981     \CaptionSeparator%
9982     \LWR@isolate{#3}%
9983     \endLWR@figcaption%

```

See if an optional caption was given:

```

9984     \ifblank{#2}% TOC entry empty

```

if the optional caption was given, but empty, do not form a TOC entry

```

9985     }%

```

If the optional caption was given, but might only be []:

```

9986     {% TOC entry not empty
9987         \IfNoValueTF{#2}% No TOC entry?

```

The optional caption is []:

```

9988     {% No TOC entry
9989         \addcontentsline%
9990         {\@nameuse{ext@\LTcaption}}%
9991         {\LTcaption}%
9992         {%
9993             \protect\numberline%
9994             {\LWR@isolate{\@nameuse{p@\LTcaption}}\@nameuse{the\LTcaption}}%
9995             {\ignorespaces \LWR@isolate{#3}\protect\relax}%
9996         }%
9997     }% end of No TOC entry

```

The optional caption has text enclosed:

```

9998     {% yes TOC entry
9999         \addcontentsline%
10000        {\@nameuse{ext@\LTcaption}}%
10001        {\LTcaption}%
10002        {%
10003            \protect\numberline%
10004            {\LWR@isolate{\@nameuse{p@\LTcaption}}\@nameuse{the\LTcaption}}%

```

```

10005             {\ignorespaces \LWR@isolate{#2}\protect\relax}%
10006             }%
10007             }% end of yes TOC entry
10008             }% end of TOC entry not empty
10009             }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

10010     \booltrue{LWR@skipatbang}%
10011     }% end of \LWR@domulticolumn
10012     \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
10013     \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
10014
10015 }

```

### 75.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

10016 \newcounter{LWR@tabhtmlcolindex}
10017 \newcounter{LWR@tabhtmlcolend}
10018 \newcounter{LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {<index>}

Factored from \LWR@tabularhtmlcolumns, which follows.

```

10019 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```

10020     \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%

```

If the @ specification is not empty, add to the count:

```

10021     \ifdefempty{\LWR@atbangspec}%
10022     {}%
10023     {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```

10024     \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
10025     \ifdefempty{\LWR@atbangspec}%
10026     {}%
10027     {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
10028 }

```



```
\LWR@tabularhtmlcolumns {<starting LATEX column>} {<number LATEX columns>}
```

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter LWR@tabhtmlcoltotal.

```
10029 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
10030   \defcounter{LWR@tabhtmlcolindex}{#1}%
10031   \defcounter{LWR@tabhtmlcoltotal}{#2}%
10032   \defcounter{LWR@tabhtmlcolend}{#1}%
10033   \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
10034   \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
10035     \LWR@subtabularhtmlcolumns{leftedge}%
10036   }{ }%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
10037   \whileboolexpr{%
10038     test {%
10039     \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}}%
10040     }%
10041   }%
10042   {%
10043     \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
10044     \defaddtocounter{LWR@tabhtmlcolindex}{1}%
10045   }% whiledo
10046 }
```

```
10047 \end{warpHTML}
```

## 75.23 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```
10048 \begin{warpHTML}
10049 \newcommand{\multirow}[2][c]{ }
10050 \end{warpHTML}
```

## 75.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a lateximage.

See section 429 for the HTML versions.

```
for HTML & PRINT: 10051 \begin{warpall}
```

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:  
<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
10052 \AtBeginDocument{
```

```
\@ifundefined{@xmultirow} determines if multirow was never loaded.
```

Null action if not loaded:

```
10053 \@ifundefined{@xmultirow}
10054 {
10055 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10056   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10057   {}%
10058 }% no version of multirow was loaded
10059 {% \@xmultirow defined, so some version of multirow was loaded
```

```
\IfPackageLoadedTF{multirow} determines if v2.0 or later of multirow was used,
which included the \ProvidesPackage macro.
```

The print version:

```
10060 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10061 \IfPackageAtLeastTF{multirow}{2016/09/01}% 2016/09/27 for v2.0
10062 {% v2.0+:
10063 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10064   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10065   {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
10066 }
10067 {% loaded but older, probably not executed:
10068 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10069   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10070   {\multicolumn{#1}{#2}{\@xmultirow[#4][#5][#6][#7][#8]}}%
10071 }
10072 }% packagedloaded{multirow}
```

If not `\IfPackageLoadedTF{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
10073 {% v1.6 or older did not \ProvidePackage
10074 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10075   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10076   {\multicolumn{#1}{#2}{\@xmultirow[#4][#5][#6][#7][#8]}}%
10077 }
10078
10079 }% \@ifundefined{@xmultirow}
10080
10081 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
10082
10083 }% AtBeginDocument
```

```
10084 \end{warpall}
```

## 75.25 Utility macros inside a table

**for HTML output** 10085 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10086 \newcommand*{\LWR@donothing}{}
```

In case array is not loaded:

```
10087 \let\firsthline\relax
10088 \let\lasthline\relax
10089 \newcommand*{\firsthline}{}
10090 \newcommand*{\lasthline}{}

```

In case bigdelim is not loaded:

```
10091 \newcommand*{\ldelim}{}
10092 \newcommand*{\rdelim}{}

```

```
10093 \end{warpHTML}
```

## 75.26 Special-case tabular markers

**for HTML & PRINT** 10094 \begin{warpall}


`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).

```
10095 \newcommand*{\TabularMacro}{}

```

```
10096 \end{warpall}
```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 10097 \begin{warphTML}

```

10098 \newcommand*\ResumeTabular{%
10099   \boolfalse{LWR@exitingtabular}%
10100   \boolfalse{LWR@tabularmutemods}%
10101   \boolfalse{LWR@tabularfinalrow}%
10102   \LWR@getmynexttoken%
10103 }

10104 \end{warphTML}

```

**for PRINT output:** 10105 \begin{warpprint}

```

10106 \newcommand*\ResumeTabular{}

10107 \end{warpprint}

```

## 75.27 Checking for a new table cell

**for HTML output:** 10108 \begin{warphTML}

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

10109 \newcommand*\LWR@tabledatacolumnntag%
10110 {%
10111   \LWR@traceinfo{LWR@tabledatacolumnntag}%

```

`\show\LWR@mynexttoken` to see what tokens to look for

If not any of the below, start a new table cell:

```

10112   \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%

```

If find `\end`, exit the tabular:

```

10113   \ifdefequal{\LWR@mynexttoken}{\end}%
10114     {%
10115       \booltrue{LWR@tabularfinalrow}%
10116       \booltrue{LWR@exitingtabular}%
10117     }%

```

longtable can have a caption in a cell

```
10118 \ifdefequal{\LWR@mynexttoken}{\caption}%
10119     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Look for other things which would not start a table cell:

```
10120 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10121     {\global\let\LWR@mynextaction\LWR@donothing}{}%
10122 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10123     {\global\let\LWR@mynextaction\LWR@donothing}{}%
10124 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10125     {\global\let\LWR@mynextaction\LWR@donothing}{}%
10126 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10127     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10128 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10129     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10130 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10131     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10132 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10133     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10134 \ifdefequal{\LWR@mynexttoken}{\hline}%
10135     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10136 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10137     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10138 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10139     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10140 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10141     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10142 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10143     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10144 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10145     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10146 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10147     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10148 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10149     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10150 \ifdefequal{\LWR@mynexttoken}{\cline}%
10151     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```

10152 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10153     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10154 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10155     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10156 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10157     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10158 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10159     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10160 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10161     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10162 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10163     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10164 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10165     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10166 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10167     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10168 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10169     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

10170 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10171     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10172 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10173     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10174 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10175     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10176 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10177     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

10178 \ifdefequal{\LWR@mynexttoken}{\par}%
10179     {%
10180     \global\let\LWR@mynextaction\LWR@donothing%
10181     }%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```


10182 \LWR@traceinfo{\LWR@tabledatacolumnntag: done, about to do \LWR@mynextaction}%
10183 \LWR@mynextaction%
10184 }

```

```
10185 \end{warpHTML}
```

## 75.28 \mrowcell

**for HTML & PRINT:**10186 \begin{warpall}


 **multirow cells** `\mrowcell` The user must insert `\mrowcell` into any `\multirow` cells which must be skipped. This command has no action during print output.

```
10187 \newcommand*\mrowcell{}
```

```
10188 \end{warpall}
```

## 75.29 \mcolrowcell

**for HTML & PRINT:**10189 \begin{warpall}

 **multirow cells** `\mcolrowcell` The user must insert `\mcolrowcell` into any `\multicolumnrow` cells which must be skipped. This command has no action during print output.

```
10190 \newcommand*\mcolrowcell{}
```

```
10191 \end{warpall}
```

## 75.30 HTML tabular environment

**for HTML output:**10192 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
10193 \providecommand*\toprule[1][\hline]
10194 \providecommand*\midrule[1][\hline]
10195 \providecommand*\cmidrule{\cline}
10196 \providecommand*\bottomrule[1][\hline]
10197 \providecommand*\addlinespace[1][\hline]
10198 \providecommand*\morecmidrules{}
10199 \providecommand*\specialrule[3][\hline]
```

`\noalign` `{\text}` Redefined for use inside `tabular`.

```
10200 \LetLtxMacro\LWR@orignoalign\noalign
10201
10202 \newcommand{\LWR@tabularnoalign}[1]{%
10203   \advance\rownum\m@ne%
10204   \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10205   \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10206   \multicolumn{value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\\
10207   \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10208   % \@rowc@lors%
10209   \LWR@getmynexttoken%
10210 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10211 \AtBeginDocument{
10212
10213 \IfPackageLoadedTF{lwarp-tabls}
10214 {
10215   \newcommand*\LWR@HTMLhline}[1][{}]{%
10216     \ifbool{FormatWP}%
10217       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10218       {\defaddtocounter{LWR@hlines}{1}}%
10219     \LWR@getmynexttoken}%
10220 }
10221 {
10222   \newcommand*\LWR@HTMLhline}{%
10223     \ifbool{FormatWP}%
10224       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10225       {\defaddtocounter{LWR@hlines}{1}}%
10226     \LWR@getmynexttoken}%
10227 }
10228
10229 }% AtBeginDocument

```

`\LWR@HTMLcline` `{\langle columns \rangle}`

```

10230 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10231 {%
10232   \LWR@docmidrule{#1}%
10233   \LWR@maybenewtablerow%
10234   \LWR@getmynexttoken%
10235 }%

```

`\LWR@tabular@warpprintonly` `{\langle contents \rangle}`

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10236 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10237   \ifbool{warpingprint}{#1}{}%
10238   \LWR@getmynexttoken%
10239 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` parsing code for each cell, which uses `xstring`.

```

10240 \AtBeginDocument{
10241 \ifundefined{NoAutoSpacing}%
10242 {% no babel-french
10243   \newcommand*\LWR@nullifyNoAutoSpacing{}%
10244 }% no babel-french
10245 {% yes babel-french
10246   \newcommand*\LWR@nullifyNoAutoSpacing}{%
10247     \NoAutoSpacing%
10248     \renewcommand*\NoAutoSpacing}{}%
10249     \renewcommand*\LWR@FBcancel}{}%
10250   }

```




```
10251 }% yes babel-french
10252 }% AtBeginDocument
```

`tabular (enu) <direction> [(<verticalposition>)] {(<colspecs>)}`

The `<direction>` is from `plex` for Japanese documents, and is ignored.

```
10253 \StartDefiningTabulars
10254
10255 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
10256 {%
10257   \LWR@traceinfo{\LWR@HTML@tabular started}%
```

 **<table> inside <span>** In `LATEX`, a `tabular` may be placed inside a `minipage`, but in `HTML` a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the `HTML` output, the entire `<table>` is placed on a single line of `HTML` code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```
10258   \LWR@spanwarnformat{tabular}%
10259   \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10260   \boolfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
10261   \defcounter{\LWR@hlines}{0}%
10262   \defcounter{\LWR@hdashedlines}{0}%
10263   \boolfalse{\LWR@doingtbrule}%
10264   \boolfalse{\LWR@doingcmidrule}%
```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the `tabular` parsing code.

```
10265   \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of `tabular` command. Unmute the `@` and `!` columns.

```
10266   \boolfalse{\LWR@exitingtabular}%
10267   \boolfalse{\LWR@tabularmutemods}%
```

Not adding final row for the lower border:

```
10268   \boolfalse{\LWR@tabularfinalrow}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
10269   \boolfalse{\LWR@usedmultirow}%
10270   \boolfalse{\LWR@foundmrowcell}%
```

In case of nesting:

```
10271 \renewcommand*{\LWR@multicoltext}{}%
10272 \booltrue{\LWR@intabularmetadata}%
```

New PDF page, unless in a `\multirow`:

```
10273 \ifbool{\LWR@in@multirow@par}%
10274     {\leavevmode\LWR@orignewline}%
10275     {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a `\multirow`:

```
10276 \boolfalse{\LWR@in@multirow@par}%
```

Create the table tag:

```
10277 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10278 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```
10279 \LWR@stoppars%
```

Without at least one header cell, some screen readers think that the table is just for page layout, and do not read it as data. Add a hidden row with a single non-empty header cell to tell the screen readers that this is a table of data for the user.

```
10280 \LWR@htmltag{tr style="display:none"%}
10281 \LWR@htmltag{th}.\LWR@htmltag{/th}%
10282 \LWR@htmltag{/tr}%
10283 \LWR@orignewline%
10284 \LWR@forceemptyline%
```

Track column #:

```
10285 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10286 \global\boolfalse{\LWR@tabularcelladded}%
```

Start looking for midrules:

```
10287 \LWR@clearmidrules%
```

`\` becomes a macro to end the table row:

```
10288 \LetLtxMacro{\}\LWR@tabularendofline%
```

`\warpprintonly` inside a tabular must grab the next token.

```
10289 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```
10290 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10291 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10292 \def\LWR@columnHTMLcolor{}%
10293 \def\LWR@rowHTMLcolor{}%
10294 \def\LWR@cellHTMLcolor{}%
10295 \@rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```
10296 \ifdefined\LWR@ruleHTMLcolor}%
10297     {\edef\LWR@vertruleHTMLcolor{black}}%
10298     {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color `<div>`:

```
10299 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabls` package.

```
10300 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10301 \LetLtxMacro\noalign\LWR@tabularnoalign%
10302 \LetLtxMacro\hline\LWR@HTMLhline%
10303 \LetLtxMacro\cline\LWR@HTMLcline%

10304 \DeclareDocumentCommand{\hdashline}{o}{%
10305     \ifbool{FormatWP}%
10306         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10307         {\defaddtocounter{LWR@hdashedlines}{1}}%
10308     \LWR@getmynexttoken%
10309 }%

10310 \DeclareDocumentCommand{\cdashline}{m}{%
10311     \LWR@docdashline{##1}\LWR@getmynexttoken%
10312 }%

10313 \DeclareDocumentCommand{\firsthdashline}{o}{%
10314     \ifbool{FormatWP}%
10315         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10316         {\defaddtocounter{LWR@hdashedlines}{1}}%
10317     \LWR@getmynexttoken%
10318 }%

10319 \DeclareDocumentCommand{\lasthdashline}{o}{%
10320     \ifbool{FormatWP}%
10321         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10322         {\defaddtocounter{LWR@hdashedlines}{1}}%
10323     \LWR@getmynexttoken%
10324 }%
```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10325 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10326 \renewcommand*\mrowcell{%
10327     \LWR@maybenewtablerow%
10328     \LWR@tabularleftedge%
10329     \booltrue{LWR@skippingmrowcell}%
10330     \booltrue{LWR@foundmrowcell}%
10331 }%
10332 \renewcommand*\mcolrowcell{%
10333     \LWR@maybenewtablerow%
10334     \booltrue{LWR@skippingmcolrowcell}%
10335     \booltrue{LWR@foundmrowcell}%
10336 }%
10337 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```

10338 \boolfalse{LWR@tableparcell}%
10339 \boolfalse{LWR@skippingmrowcell}%
10340 \boolfalse{LWR@skippingmcolrowcell}%
10341 \boolfalse{LWR@skipatbang}%
10342 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

10343 \StartDefiningTabulars%
10344 \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10345 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

10346 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

10347 \LWR@traceinfo{LWR@HTML@tabular: about to LWR@getmynexttoken}%
10348 \LWR@getmynexttoken%
10349 }%
```

Ending the environment:

```

10350 \newcommand*\LWR@HTML@endtabular}
10351 {%
10352     \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```

10353 \addtocounter{LWR@tabularpardepth}{-1}%
```

Finish a row which is not yet done:

```

10354 \ifboolexpr{%
```

```

10355     test {%
10356         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10357             {\value{LWR@tabletotalLaTeXcols}}
10358     } or %
10359     (%
10360         bool{LWR@intabularmetadata} and%
10361         not bool{LWR@tabularcelladded} and%
10362         test {%
10363             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10364                 {\value{LWR@tabletotalLaTeXcols}}%
10365             }%
10366     )%
10367 }%
10368 {%

10369     \booltrue{LWR@tabularfinalrow}%
10370     \LWR@tabularfinishrow%
10371     \boolfalse{LWR@tabularfinalrow}%
10372 }%
10373 {%
10374     \LWR@closetabledatacell%
10375 }%
10376 \ifbool{LWR@startedrow}%
10377     {\LWR@htmltag{/tr}\LWR@orignewline}%
10378     {}%

```

#### xcolor row color support:

```

10379     \@rowc@lors%

10380     \LWR@htmlblocktag{/table}%
10381     \boolfalse{LWR@intabularmetadata}%

```

#### Unnest one level of tabular:

```

10382     \addtocounter{LWR@tabulardepth}{-1}%

```

#### Restore & to its usual meaning:

```

10383     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10384         \protected\gdef&{\LWR@origampmacro}%
10385         \StopDefiningTabulars%
10386     }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

10387     \ifbool{LWR@usedmultirow}{%
10388         \ifbool{LWR@foundmrowcell}%
10389             {\relax}%
10390         {%
10391             \PackageError{lwarp}%
10392             {%
10393                 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10394                 or the bigdelim package, \MessageBreak
10395                 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10396                 in empty cells which are to be skipped. \MessageBreak
10397                 See the Lwarp package documentation: \MessageBreak

```

```

10398             "Special cases and limitations" -> "Tabular"
10399             }%
10400             {%
10401             See the Lwarp package documentation:\MessageBreak
10402             "Special cases and limitations" -> "Tabular".
10403             }%
10404             }%
10405     }{}%

10406     \LWR@traceinfo{LWR@HTML@endtabular finished}%
10407 }
10408
10409 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10410
10411 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

10412 \AtBeginDocument{
10413     \LetLtxMacro\LWR@origendtabular\endtabular
10414     \csletcs{LWR@origendtabular*}{endtabular*}
10415     \LWR@formatted{@tabular}
10416     \LWR@formatted{endtabular}
10417     \LWR@formatted{endtabular*}
10418 }

10419 \end{warpHTML}

```

## 76 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

\*\_html.aux (*file*) A new entry in \*\_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{<section name>}{<filename>
    {<limagedepth>}{<limagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

**for HTML output** 10420 \begin{warpHTML}

### 76.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```

10421 \def\@currentlabelname{\linkhomename}%

```

```

\LWR@stripperperiod {<text>} [⟨.⟩]

```

Table 16: Cross-referencing data structures

<b>Original L<sup>A</sup>T<sub>E</sub>X:</b>	(print and HTML)
<p><b>\refstepcounter:</b> Steps the counter and sets \@currentlabel.</p> <p><b>\@currentlabel:</b> \p@&lt;ctr&gt;\the&lt;ctr&gt; Updated by \refstepcounter.</p> <p><b>\label:</b> Writes to the .aux file:  <code>\newlabel{&lt;label&gt;}{\@currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> When the .aux file is read, sets \r@&lt;label&gt;.</p> <p><b>\r@&lt;label&gt;:</b> Set to: <code>{\@currentlabel}{\thepage}</code></p> <p><b>\ref:</b> Returns the first part of \r@&lt;label&gt;.</p> <p><b>\pageref:</b> Returns the second part of \r@&lt;label&gt;.</p>	
<b>Added by lwarp:</b>	(HTML only)
<p><b>\label:</b> Adds HTML tags (section 76.3), and another .aux entry (section 76.2). If memoir is used, its \@mem@old@label points to lwarp's version, and cleveref patches.</p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@lwarp.</p> <p><b>\r@&lt;label&gt;@lwarp:</b> Set to <code>{\section_name}{file_name}{depth}{number}</code>:</p> <p><b>\LWR@nameref:</b> The section or object name for this label.</p> <p><b>\LWR@currentautosecpageref:</b> The LWR@currentautosecpage for this label.</p> <p><b>\LWR@htmlfileref:</b> The filename or name for this label.</p> <p><b>\LWR@lateximagedepthref:</b> The lateximagedepth for this label.</p> <p><b>\LWR@lateximagenumberref:</b> The lateximagenumber for this label.</p> <p><b>\nameref:</b> Emulated from hyperref for lwarp. See section 76.4.</p> <p><b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.</p>	
<b>Added by amsmath:</b>	(print and HTML)
<p><b>\label:</b> Execution is delayed until the math environment is completed.</p> <p><b>\ltx@label:</b> L<sup>A</sup>T<sub>E</sub>X \label, (HTML: patched by lwarp,) later patched by cleveref.</p>	
<b>Added by cleveref:</b>	(print and HTML)
<p><b>\refstepcounter:</b> Added: sets \cref@currentlabel.</p> <p><b>\cref@currentlabel:</b> (&lt;type&gt;=&lt;ctr&gt; unless an alias is used):  <code>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</code> Also see section 60.4 for use with footnotes.</p> <p><b>\label:</b> Writes to the .aux file:  <code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@cref.</p> <p><b>\r@&lt;label&gt;@cref:</b> Set to: <code>{\cref@currentlabel}{\thepage}</code></p> <p><b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.</p> <p><b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.</p>	
<b>Additionally patched by lwarp:</b>	(HTML only)
<p><b>\cref, etc.:</b> Modified for lwarp. See section 202.</p> <p><b>\label inside math:</b> See section 83.7.1.</p>	
<b>Footnotes:</b> See \noteentry in section 60.4.	

Removes a trailing period.

```
10422 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname` {<*object name*>}

Removes `\label`, strips any final period, and remembers the result.

```
10423 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period.  
See `getttitlestring`.

```
10424   \GetTitleStringExpand{#1}%
10425   \edef\@currentlabelname{\detokenize\expandafter\GetTitleStringResult}%
10426   \edef\@currentlabelname{%
10427     \expandafter\LWR@stripperperiod\@currentlabelname%
10428     \ltx@empty.\ltx@empty\@nil%
10429   }%
10430 }
```

## 76.2 New lwarp labels.

`*_html.aux` (*file*) A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{<section name>}{<filename>}
                                     {<limagedepth>}{<limagenumber>}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref` {<*args list*>} {<*selector*>} {<*label*>}

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will cause the warning.

```
10431 \def\LWR@setref#1#2#3{%
10432   \ifx#1\relax%
10433   ??%
10434   \else%
10435     \expandafter#2#1%
10436   \fi}
```

`\LWR@nameref` {<*label*>} Returns the section name for this label:

```
10437 \newcommand*{\LWR@nameref}[1]{%
10438   \begingroup%
10439   \LWR@nullifyfootnotes%
10440   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10441   \endgroup%
10442 }
```



`\LWR@currentautosecpageref`  $\langle label \rangle$  Returns the `LWR@currentautosecpage` for this label:

```
10443 \newcommand*\LWR@currentautosecpageref}[1]{%
10444   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10445 }
```

`\LWR@htmlfileref`  $\langle label \rangle$  Returns the file number or name for this label:

```
10446 \newcommand*\LWR@htmlfileref}[1]{%
10447   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10448 }
```

`\LWR@lateximagedepthref`  $\langle label \rangle$  Returns the `lateximagedepth` for this label:

```
10449 \newcommand*\LWR@lateximagedepthref}[1]{%
10450   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fourthoffive{#1}%
10451 }
```

`\LWR@lateximagenumberref`  $\langle label \rangle$  Returns the `lateximagenumber` for this label:

```
10452 \newcommand*\LWR@lateximagenumberref}[1]{%
10453   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fifthoffive{#1}%
10454 }
```

`\LWR@write@lwarplabel`  $\langle label \rangle$  Sanitize the name and then creates the label:

```
10455 \newcommand*\LWR@write@lwarplabel}[1]{%
10456   \LWR@traceinfo{LWR@write@lwarplabel !#1!}%
10457   \LWR@setlatestname{\@currentlabelname}%
10458   \bspack%
10459   \protected@write\@auxout{%
10460     {%
10461       \string\newlabel{#1@lwarp}{%
10462         {\@currentlabelname}%
10463         {\theLWR@currentautosecpage}%
10464         {%
10465           \ifbool{FileSectionNames}%
10466             {\LWR@thisfilename}%
10467             {\arabic{LWR@htmlfilenumber}}}%
10468         }%
10469         {\arabic{LWR@lateximagedepth}}%
10470         {\arabic{LWR@lateximagenumber}}}%
10471       }%
10472     }%
10473   \espack%
10474 }
```

### 76.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```
10475 \newcommand*\LWR@label@subcreatetag{%
10476   \LWR@htmltag{a \LWR@print@box{id=\textquotedbl\LWR@sanitized\textquotedbl}}%
10477   \LWR@htmltag{/a}%
10478 }
```

`\LWR@label@inmathcomment`

```
10479 \newcommand*{\LWR@label@inmathcomment}{%
10480   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
10481   {%
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a `\mbox` field:

```
10482   \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10483   \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}{}}{%
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```
10484       \LWR@htmlclosecomment%
10485       \LWR@label@subcreatetag%
10486       \LWR@htmlopencomment%
10487   }% mbox
10488 }% mathjax
10489 {%
10490   \LWR@label@subcreatetag%
10491 }%
10492 }
```

`\LWR@label@createtag {<label>}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```
10493 \newcommand*{\LWR@label@createtag}[1]{%
10494   \LWR@traceinfo{LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image:

```
10495   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10496   }{%
10497   {% not lateximage
```

If not doing a `lateximage`, create an HTML ID tag.

```
10498   \LWR@sanitize{#1}%
10499   \ifbool{LWR@insidemathcomment}%
10500   {% inside HTML math comment
10501     \LWR@label@inmathcomment%
10502   }% inside HTML math comment
10503   {% not inside HTML math comment
10504     \ifbool{LWR@doingstartpars}%
10505     {% pars allowed
10506       \ifbool{LWR@doingapar}%
10507       {% par started
10508         \LWR@label@subcreatetag%
```

```

10509           }% par started
10510           {% par not started
10511             \LWR@stoppars%
10512             \LWR@label@subcreatetag%
10513             \LWR@startpars%
10514           }% par not started
10515           }% pars allowed
10516           {% pars not allowed
10517             \LWR@label@subcreatetag%
10518           }% pars not allowed
10519           }% not inside HTML math comment
10520   }% not lateximage
10521 }

```

`\LWR@new@label {<label>}`

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X `\label`.

This is also used during a `lateximage`, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `lateximage`.

If `memoir` is used, it's `\@mem@old@label` is pointed here.

`cleveref` later encases this to add its own cross-referencing, and also patches `memoir`.

```

10522 \newcommand*{\LWR@new@label}[1]{%
10523   \LWR@traceinfo{\LWR@new@label: starting}%
10524   \LWR@traceinfo{\LWR@new@label: !#1!}%
10525 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```

10526   \LWR@orig@label{#1}%

```

Create a special label which holds the section number, section name, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

10527   \LWR@traceinfo{%
10528     LWR@new@label: filesectionnames is %
10529     \ifbool{FileSectionNames}{true}{false}%
10530   }%
10531   \LWR@traceinfo{%
10532     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10533   }%
10534   \LWR@traceinfo{%
10535     LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10536   }%
10537   \LWR@write@lwarplabel{#1}%
10538   \LWR@label@createtag{#1}%
10539   % \@esphack%
10540   \LWR@traceinfo{\LWR@new@label: done}%
10541 }

```

## 76.4 References

`\LWR@addlinktitle`

```

10542 \newcommand*{\LWR@addlinktitle}{%
10543     \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10544         title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10545         \gdef\LWR@ThisAltText{ }%
10546     }%
10547 }
```

`\LWR@startref <{<label>}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```

10548 \newcommand*{\LWR@startref}[1]
10549 {%
10550     \LWR@sanitize{#1}%
10551     \LWR@traceinfo{\LWR@startref A: !#1!}%
```

Create the filename part of the link:

```

10552     \LWR@htmltag{a href=\textquotedbl%
10553     \LWR@traceinfo{\LWR@startref B}%
10554     \LWR@print@mbbox{\LWR@htmlrefsectionfilename{#1}}%
10555     \LWR@traceinfo{\LWR@startref C}%
10556     \LWR@origpound%
```

Create the destination id:

See if `LWR@lateximagedepth` is unknown:

```

10557     \LWR@traceinfo{\LWR@startref D: !#1!}%
10558     \ifcsundef{r@#1@lwarp}%
```

“??” if `LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```

10559     {%
10560         \LWR@traceinfo{\LWR@startref D0: ??}%
10561         ??%
10562     }%
```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

(Using `xifthen \ifthenelse` here failed in some cases, but `etoolbox \ifnumgreater` works.)

```

10563     {%
10564         \ifnumgreater{\LWR@lateximagedepthref{#1}}{0}%
10565         {%
10566             lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10567         }%
10568     }%
10569     \LWR@traceinfo{\LWR@startref D3}%
```

\detokenize is used to allow underscores in the labels:

```
10570             \LWR@print@box{\LWR@sanitized}%
10571             }%
10572     }%
10573     \LWR@traceinfo{LWR@startref E}%
```

Closing quote:

```
10574     \textquotedbl%
```

Maybe add a title:

```
10575     \LWR@addlinktitle%
10576     }%
10577     \LWR@traceinfo{LWR@startref F}%
10578 }
```

`\LWR@subnewref <{<label>} <{<label or sub@label>}`

Factored for the subfig package. Uses the original label for the hyper-reference, but prints its own text, such as “1 (b)”.

```
10579 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10580     \LWR@traceinfo{LWR@subnewref #1 #2}%
10581     \LWR@startref{#1}%
10582     \LWR@print@ref{#2}%
10583     \LWR@htmltag{/a}%
10584 }
```

`\ref * <{<label>}`

\ref is redefined to \LWR@HTML@ref, except inside the text part of a \hyperref, where it is redefined to \LWR@ref@ignorestar.

`\LWR@HTML@ref * <{<label>}` Create an internal document reference link, or without a link if starred per hyperref.

The HTML version:

```
10585 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10586     \LWR@traceinfo{LWR@HTML@ref !#2!}%
10587     \IfBooleanTF{#1}%
10588         {\LWR@print@ref{#2}}%
10589         {\LWR@subnewref{#2}{#2}}%
10590 }
10591
10592 \LWR@formatted{ref}
10593
10594
10595 \NewDocumentCommand{\LWR@HTML@Ref}{s m}{%
10596     \LWR@traceinfo{LWR@HTML@Ref !#2!}%
10597     \IfBooleanTF{#1}%
10598         {\LWR@print@Ref{#2}}%
10599         {\LWR@subnewref{#2}{#2}}%
10600 }
10601
10602 \LWR@formatted{Ref}
```

```
\LWR@refwithsection * {<label>}
```

Creates a reference, using the section number as the text. Used for back references.

```
10603 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10604   \LWR@traceinfo{\LWR@refwithsection !#2!}%
```

If starred, just use the text without a hyperlink:

```
10605   \IfBooleanTF{#1}%
10606     {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10607     {%
```

Open the reference:

```
10608       \LWR@startref{#2}%
```

Add the text of the link.

Check for and handle an undefined reference:

```
10609       \edef\@tempa{\LWR@currentautosecpageref{#2}}%
10610       \ifdefstring{\@tempa}{??}%
10611         {??}%
```

For a defined reference:

```
10612         {%
```

Set \@tempa to \r@<label>, which is {section number}{page number}.

```
10613       \edef\@tempa{%
10614         \csname
10615         r@\BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10616         \endcsname%
10617       }%
```

Check the section number alone:

```
10618       \edef\@tempa{\expandafter\@firstoftwo\@tempa}%
```

If the reference has no section number print an asterisk:

```
10619       \expandafter\ifblank\expandafter{\@tempa}%
10620       {*}%
```

If there is a section number, print it:

```
10621       {%
10622         \LWR@print@ref{%
10623         \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10624         }%
10625       }%
10626     }%
```

Close the reference:

```

10627         \LWR@htmltag{/a}%
10628     }%
10629 }

```

For MATHJAX:

```

10630 \CustomizeMathJax{\let\LWRref\ref}
10631 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

`\pagerefPageFor` Text for page references.

```

10632 \newcommand*{\pagerefPageFor}{see }

```

`\pageref * {<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```

10633 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10634     \IfBooleanTF{#1}%
10635         {(\pagerefPageFor\LWR@print@ref{#2})}%
10636         {(\cpageref{#2})}%
10637 }

```

`\nameref {<label>}`

```

10638 \newrobustcmd*{\nameref}[1]{%
10639     \LWR@traceinfo{nameref}%
10640     \LWR@startref{#1}%
10641     \LWR@traceinfo{nameref B}%
10642     \LWR@nameref{#1}%
10643     \LWR@traceinfo{nameref C}%
10644     \LWR@htmltag{/a}%
10645     \LWR@traceinfo{nameref: done}%
10646 }

```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

```

10647 \LetLtxMacro\Nameref\nameref

```

## 76.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

`hyperref (Pkg)`



Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```

10648 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10649 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.

```

Emulates hyperref:

`\@currentHref` Added to support backref.

```
10650 \AtBeginDocument{
10651   \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10652 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10653 \newcommand*\LWR@linkcatcodes{%
10654   \catcode'\#=12%
10655   \catcode'\%=12%
10656   \catcode'\&=12%
10657   \catcode'\~=12%
10658   \catcode'\_ =12%
```

For babel-french:

```
10659   \LWR@hook@processingtags%
10660 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10661 \newcommand*\LWR@linkmediacatcodes{%
10662   \catcode'\#=12%
10663   \catcode'\%=12%
10664 %   \catcode'\&=12% left alone for splitting flash variables
10665   \catcode'\~=12%
10666   \catcode'\_ =12%
```

For babel-french:

```
10667   \LWR@hook@processingtags%
10668 }
```

`\LWR@subhyperref`  $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
10669 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10670   \LWR@traceinfo{\LWR@subhyperref !#1!}%
10671   \LWR@sanitize{#1}%
10672   \LWR@htmltag{%
10673     a href=\textquotedbl\LWR@sanitized\textquotedbl\ % space
10674     \LWR@addlinktitle % space
10675     target=\textquotedbl\_{ }blank\textquotedbl\ % space
10676   }%
10677 }
```

`\LWR@subhyperreftext`  $\{\langle text \rangle\}$



Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```
10678 \newcommand{\LWR@subhyperreftext}[1]{%
10679   #1%
10680   \LWR@htmltag{/a}%
10681   \LWR@ensuredoingapar%
10682 }
```

`\LWR@subhyperrefclass {<URL>} {<text>} {<htmlclass>}`

```
10683 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10684   \LWR@htmltag{%
10685     a % space
10686     href=\textquotedbl\begin{group}\@sanitize#1\end{group}\textquotedbl\ % space
10687     class=\textquotedbl#3\textquotedbl\ % space
10688     \LWR@addlinktitle % space
10689   }\LWR@orignewline%
10690   #2%
10691   \LWR@htmltag{/a}%
10692   \LWR@ensuredoingapar%
10693 }
```

`\LWR@href [ <options> ] {<URL>} {<text>}`

Create a link with accompanying text:

```
10694 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10695   \LWR@ensuredoingapar%
10696   \LWR@subhyperref{#2}%
10697   \end{group}% restore catcodes
10698   \LWR@subhyperreftext%
10699 }
10700
10701 \newrobustcmd*{\LWR@href}{%
10702   \begin{group}%
10703   \LWR@linkcatcodes%
10704   \LWR@hrefb%
10705 }
```

`\LWR@nolinkurl {<URL>}`

Print the name of the link without creating the link:

```
10706 \newcommand*{\LWR@nolinkurlb}[1]{%
10707   \LWR@ensuredoingapar%
10708   \def\LWR@templink{#1}%
10709   \@onelevel@sanitize\LWR@templink%
10710   \LWR@templink%
10711   \end{group}%
10712 }
10713
10714 \newrobustcmd*{\LWR@nolinkurl}{%
10715   \begin{group}%
10716   \LWR@linkcatcodes%
10717   \LWR@nolinkurlb%
10718 }
```

`\LWR@url`  $\{\langle URL \rangle\}$

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@url` here and also redefined by `lwarp-url`.

```

10719 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10720   \LWR@ensuredoingapar%
10721   \def\LWR@templink{#1}%
10722   \@onelevel@sanitize\LWR@templink%
10723   \LWR@href{\LWR@templink}{\LWR@templink}%
10724   \endgroup%
10725 }
10726
10727 \newrobustcmd*{\LWR@url}{%
10728   \begingroup%
10729   \LWR@linkcatcodes%
10730   \LWR@urlb%
10731 }

```

`\LWR@subinlineimage`  $\{\langle 1: <alt> tag \rangle\} \{\langle 2: class \rangle\} \{\langle 3: filename \rangle\} \{\langle 4: extension \rangle\} \{\langle 5: css style \rangle\} \{\langle 6: aria role \rangle\}$

Factored from `lateximage`.

```

10732 \newcommand*{\LWR@subinlineimage}[6]{%
10733   \ifblank{#6}%
10734     {\renewcommand*{\LWR@tempone}{}}%
10735     {\renewcommand*{\LWR@tempone}{role="#6"\LWR@indentHTML}}%
10736   \ifblank{#1}%
10737     {%
10738       \LWR@htmltag{img \LWR@indentHTML
10739         src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10740         alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10741         \LWR@tempone
10742         style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10743         class=\textquotedbl#2\textquotedbl \LWR@orignewLine
10744       }%
10745     }%
10746   {%
10747     \LWR@htmltag{img \LWR@indentHTML
10748       src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10749       alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10750       \LWR@tempone
10751       style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10752       class=\textquotedbl#2\textquotedbl \LWR@orignewLine
10753     }%
10754   }%
10755 }

10756 \end{warpHTML}

```

Table 17: Float data structures

---

For each `<type>` of float (figure, table, etc.) there exists the following:

- counter `<type>`:** A counter called `<type>`, such as figure, table.
  - `\<type>name`:** Name. `\figurename` prints “Figure”, etc.
  - `\ext@<type>`:** File extension. `\ext@figure` prints “lof”, etc.
  - `\fps@<type>`:** Placement.
  - `\the<type>`:** Number. `\thetable` prints the number of the table, etc.
  - `\p@<type>`:** Parent’s number. Prints the number of the [within] figure, etc.
  - `\fnum@<type>`:** Prints the figure number for the caption.  
`\<type>name \the<type>`, “Figure 123”.
  - `\<type>`:** Starts the float environment. `\figure` or `\begin{figure}`
  - `\end<type>`:** Ends the float environment. `\endfigure` or `\end{figure}`
  - `\tf@<ext>`:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.
  - `LWR@have<type>`:** A boolean remembering whether a `\listof` was requested for a float of this type.
  - File with extension `lo<f, t, a-z>`:** An output file containing the commands to build the `\listof<type>` “table-of-contents” structure.
  - Cross-referencing names:** For `cleveref`’s `\cref` and related, `\crefname` and `\Crefname` assign human-readable names for references to this float type.
- 

## 77 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each `<type>` of float.

### 77.1 Float environment

for HTML output<sup>10757</sup> `\begin{warpHTML}`

`\LWR@floatbegin {<type>} [<placement>]` Begins a `\newfloat` environment.

<sup>10758</sup> `\NewDocumentCommand{\LWR@floatbegin}{m o}{%`

Warn if starting a float inside a `<span>`:

<sup>10759</sup> `\LWR@spanwarninvalid{float}%`

<sup>10760</sup> `\ifbool{FormatWP}{\newline}{}%`

<sup>10761</sup> `\LWR@stoppars%`

There is a new float, so increment the unique float counter:

```
10762 \addtocounter{LWR@thisautoid}{1}%
10763 \booltrue{LWR@freezethisautoid}%

10764 \begingroup%
```

Settings while inside the environment:

```
10765 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
10766 \LWR@htmltag{%
10767     figure id=\textquotedbl%
10768         \LWR@print@ebox{autoid-\arabic{LWR@thisautoid}}%
10769     \textquotedbl\ % space
10770     class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
10771 }%
10772 \ifbool{FormatWP}{%
10773     \LWR@orignewline%
10774     \LWR@BlockClassWP}{\wp#1}%
10775 }{%}
```

Update the caption type:

```
10776 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10777 \LWR@startpars%
10778 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10779
10780     === begin #1 ===
10781
10782     }{%}
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
10783 }
```

For koma-script. The following does not work for tables.

```
10784 \AtBeginDocument{
10785
10786 \IfPackageLoadedTF{tocbasic}{
10787
10788 \appto\figure@atbegin{%
10789     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
10790 }
10791
10792 }{%} tocbasic
10793
10794 }% AtBeginDocument
```

`\@xfloat` Support packages which create floats directly.  
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

10795 \AtBeginDocument{
10796   \def\@xfloat #1[#2]{%
10797     \LWR@floatbegin{#1}[#2]
10798     \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
10799   }
10800   \def\@xdblfloat #1[#2]{%
10801     \LWR@floatbegin{#1}[#2]
10802     \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
10803   }
10804 }
```

`\LWR@floatend` Ends a `\newfloat` environment.

```
10805 \newcommand*\LWR@floatend}{%
```

If saw a `\centering`, finish the center environment:

```
10806   \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10807   \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10808
10809   === end ===
10810
10811   }{%
10812   \LWR@stoppars%
```

Close an HTML figure tag:

```

10813   \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
10814   \LWR@htmlElementend{figure}%
10815   \endgroup%
10816   \boolfalse{LWR@freezethisautoid}%
10817   \LWR@startpars%
10818   \ifbool{FormatWP}{\newline}{}%
10819 }
```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

```

10820 \AtBeginDocument{
10821   \let\end@float\LWR@floatend
10822   \let\end@dblfloat\LWR@floatend
10823 }
```

## 77.2 Float tracking

`LWR@thisautoid` (*Ctr*) A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10824 \newcounter{LWR@thisautoid}
```

`LWR@thisautoidWP` (*Ctrl*) A sequential counter for all word processor conversion `<div>s`. This is used to convince LIBREOFFICE to form a frame around this element.

```
10825 \newcounter{LWR@thisautoidWP}
```

`LWR@freezethisautoid` (*bool*) Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
10826 \newbool{LWR@freezethisautoid}
10827 \boolfalse{LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new `<autoid>` anchor.

```
10828 \newcommand*{\LWR@forcenewautoidanchor}{%
10829   \addtocounter{LWR@thisautoid}{1}%
10830   \ifbool{LWR@doingapar}%
10831   {%
10832     \LWR@htmltag{a id=\textquotedbl%
10833       \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
10834     \textquotedbl\ }% space
10835     \LWR@htmltag{/a }%
10836   }%
10837   {%
10838     \LWR@stoppars%
10839     \LWR@htmltag{a id=\textquotedbl%
10840       \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
10841     \textquotedbl\ }% space
10842     \LWR@htmltag{/a }%
10843     \LWR@startpars%
10844   }%
10845 }
```

`\LWR@newautoidanchor` Sometimes adds a new `<autoid>` anchor.

```
10846 \newcommand*{\LWR@newautoidanchor}{%
10847   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10848   }%
10849   {\ifbool{LWR@freezethisautoid}{\LWR@forcenewautoidanchor}}%
10850 }
```

`\@capttype` Remembers which float type is in use.

```
10851 \newcommand*{\@capttype}{}%
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
10852 \newcommand*{\LWR@floatalignmentname}{}%
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
10853 \newcommand*{\LWR@floatalignment}{%
10854   \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
10855     \center%
10856     \renewcommand*{\LWR@floatalignmentname}{center}%
10857   }%}
```

```

10858   \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
10859     \flushleft%
10860     \renewcommand*\LWR@floatalignmentname}{flushleft}%
10861   }{%
10862   \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
10863     \flushright%
10864     \renewcommand*\LWR@floatalignmentname}{flushright}%
10865   }{%
10866 }

```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

10867 \newcommand*\LWR@endfloatalignment}{%
10868   \ifdefvoid{\LWR@floatalignmentname}%
10869     {}%
10870     {\@nameuse{end\LWR@floatalignmentname}}%
10871   \renewcommand*\LWR@floatalignmentname}{}%
10872 }

```

### 77.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```

10873 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}

```

`\@caption`  $\langle posn \rangle$  [ $\langle name \rangle$ ] [ $\langle long name \rangle$ ]

`\@makecaption` [ $\langle name and num \rangle$ ] [ $\langle text \rangle$ ]

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

10874 \AtBeginDocument{
10875   \IfPackageLoadedTF{caption}{}{
10876     \let\LWR@orig@caption\@caption%
10877     \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a `<span>`:

```

10878     \LWR@spanwarnformat{caption}%
10879     \LWR@setlatestname{#2}%
10880     \LWR@orig@caption{#1}[#2]}% also takes third argument
10881   }%
10882
10883   \renewcommand{\@makecaption}[2]{%
10884     \LWR@traceinfo{\@makecaption}%
10885     \caption@begin{\@capytype}%
10886     \LWR@isolate{#1}%
10887     \edef\LWR@tempone{#1}%
10888     \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
10889     \LWR@isolate{#2}%

```

```

10890         \caption@end%
10891         \LWR@traceinfo{@makecaption: done}%
10892     }%
10893 }
10894 }

```

## 77.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

LWR@nextautoid (*Ctr*) Tracks autoid for floats. Tracks autopage for floats.  
LWR@nextautopage (*Ctr*) These are updated per float as the .lof, .lot file is read.

```

10895 \newcounter{LWR@nextautoid}
10896 \newcounter{LWR@nextautopage}

```

```
\LWRsetnextfloat {<autopage>} {<float autoid>}
```

\*\_html.lof (*file*) This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

```

10897 \newcommand*\LWRsetnextfloat}[2]{%
10898     \setcounter{LWR@nextautopage}{#1}%
10899     \setcounter{LWR@nextautoid}{#2}%
10900 }

```

LWR@figcaption (*env*) An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a longtable where the tabular has already started, or inside a center environment. Therefore, a <div> of class figurecaption is used instead.

```

10901 \newenvironment*LWR@figcaption}
10902     {%
10903         \ifbool{FormatWP}{%
10904             \BlockClass[font-style:italic]{figurecaption}%
10905         }{%
10906             \BlockClass{figurecaption}%
10907         }%

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

10908         \hbadness=10000\relax%
10909     }%
10910     {\endBlockClass}

```



`\LWR@HTML@caption@begin`  $\{\langle type \rangle\}$

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
10911 \newcommand*{\LWR@HTML@caption@begin}[1]
10912 {%
10913   \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep `par` and `minipage` changes local:

```
10914   \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10915   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{}%
10916   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
10917   \LWR@figcaption%
10918   \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10919   \LWR@print@caption@begin{#1}%
10920   \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10921 }
```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
10922 \newcommand*{\LWR@HTML@caption@end}
10923 {%
10924   \LWR@traceinfo{\LWR@HTML@caption@end}%
10925   \LWR@print@caption@end%
```

Closing tag:

```
10926   \endLWR@figcaption%
10927   \endgroup%
10928   % \leavevmode% avoid bad space factor (0) error
10929   \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10930 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument` `\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
10931 \AtBeginDocument{
10932   \providecommand{\caption@begin}[1]{}
10933   \LWR@formatted{caption@begin}
10934
10935   \providecommand{\caption@end}{}
10936   \LWR@formatted{caption@end}
10937 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

10938 \AtBeginDocument{%
10939 \IfPackageLoadedTF{caption}{
10940   \let\LWR@origcaptionlistentry\captionlistentry
10941
10942   \renewcommand*\captionlistentry{%
10943     \LWR@ensuredoingapar%
10944     \LWR@origcaptionlistentry%
10945   }

10946   \def\LWR@LTcaptionlistentry{%
10947     \LWR@ensuredoingapar%
10948     \LWR@forcenewautoidanchor%
10949     \bgroup%
10950     \ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10951     {\egroup\LWR@LT@captionlistentry}%
10952   }%
10953
10954   \def\LWR@LT@captionlistentry#1{%
10955     \caption@listentry\@firstoftwo[\LTcapytype]{#1}%
10956   }%
10957 }% caption loaded
10958 {% caption not loaded
10959   \newcommand{\captionlistentry}[2][{}]{%
10960     \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
10961   }
10962 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

10963 \let\LWR@origaddcontentsline\addcontentsline
10964
10965 \renewcommand*\addcontentsline}[3]{%
10966   \ifstrequal{#1}{toc}{% not TOC

10967     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10968     }%
10969     {\LWR@newautoidanchor}%

10970     \ifcvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

10971     \addtocontents{\@nameuse{ext@#2}}{%
10972       \protect\LWRsetnextfloat%
10973       {\arabic{LWR@currentautosecfloatpage}}%
10974       {\arabic{LWR@thisautoid}}%
10975     }%
10976   }% not TOC
10977   \LWR@origaddcontentsline{#1}{#2}{#3}%
10978 }

```

`capt-of (Pkg)` Either package provides `\captionof`, which is later patched at the beginning of `caption (Pkg)`

the document.

`\captionof` Patched to handle paragraph tags.

```

10979 \RequirePackage{capt-of}
10980
10981 \AtBeginDocument{
10982   \let\LWR@origcaptionof\captionof
10983
10984   \renewcommand*\captionof}{%
10985     \LWR@stoppars%
10986     \LWR@origcaptionof%
10987   }
10988 }% AtBeginDocument

10989 \end{warpHTML}

```

## 78 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output** 10990 `\begin{warpHTML}`

### 78.1 Reading and printing the toc

`\LWR@myshorttoc` `{\langle toc/lof/lot/sidetoc \rangle}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```

10991 \newcommand*\LWR@myshorttoc[1]{%
10992   \LWR@traceinfo{LWR@myshorttoc: #1}%

```

Only if the file exists:

```

10993   \IfFileExists{\jobname.#1}{%
10994     \LWR@traceinfo{LWR@myshorttoc: loading}%

```



Many of the commands in the file will have @ characters in them, so @ must be

made a regular letter.

```
10995      \begingroup%
10996      \makeatletter%
```

Disable \ref to avoid nested HTML references.

```
10997      \LetLtxMacro\ref\LWR@print@ref%
10998      \LWR@disablepinyin%
```

Read in the toc file:

```
10999      \@input{\jobname.#1}%
11000      \endgroup%
11001      }%
11002      {}%
11003      \LWR@traceinfo{LWR@myshorttoc: done}%
11004 }
```

```
\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}
```

Places a TOC/LOF/LOT at the current position.

```
11005 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
11006      \@ifundefined{chapter}%
11007          {\LWR@closeprevious{section}}%
11008          {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
11009      \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
11010      \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
11011      \LWR@html@elementclass{nav}{#1}%
```

Create the actual list:

```
11012      \LWR@myshorttoc{#1}%
```

Close the nav:

```
11013      \LWR@html@elementclassend{nav}{#1}%
11014 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```

11015 \let\LWR@orig@starttoc \@starttoc
11016
11017 \renewcommand{\@starttoc}[1]{
11018     \LWR@htmlclass{nav}{#1}%
11019     \LWR@orig@starttoc{#1}%
11020     \LWR@htmlclassend{nav}{#1}%
11021 }

```

`LWR@copiedsidetoc` (*bool*) Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```

11022 \newbool{LWR@copiedsidetoc}
11023 \boolfalse{LWR@copiedsidetoc}

```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. `newfloat` uses `\listoffigures` for all future float types.

```

11024 \AtBeginDocument{
11025
11026 \let\ltxMacro\LWR@origtableofcontents\tableofcontents
11027
11028 \renewcommand*\tableofcontents{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

11029     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
11030
11031     === table of contents ===
11032
11033     }
11034     {

```

Copy the `.toc` file to `.sidetoc` for printing the sidetoc. The original `.toc` file is renewed when `\tableofcontents` is finished.

```

11035     \ifbool{LWR@copiedsidetoc}{}%
11036     \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
11037     \booltrue{LWR@copiedsidetoc}%
11038     }%
11039     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11040     \begingroup%
11041     \let\ltxMacro\ref\LWR@print@ref%
11042     \LWR@disablepinyin%
11043     \LWR@origtableofcontents%
11044     \endgroup%
11045     }
11046 }% \tableofcontents
11047
11048 }% AtBeginDocument

```

`\listoffigures`

```

11049 \let\LWR@origlistoffigures\listoffigures
11050
11051 \renewcommand*{\listoffigures}{
11052   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11053
11054     === list of figures ===
11055
11056   }
11057   {
11058     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11059     \begingroup%
11060     \LetLtxMacro\ref\LWR@print@ref%
11061     \LWR@disablepinyin%
11062     \LWR@origlistoffigures%
11063     \endgroup%
11064   }
11065 }

```

`\listoftables`

```

11066 \let\LWR@origlistoftables\listoftables
11067
11068 \renewcommand*{\listoftables}{
11069   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11070
11071     === list of tables ===
11072
11073   }
11074   {
11075     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11076     \begingroup%
11077     \LetLtxMacro\ref\LWR@print@ref%
11078     \LWR@disablepinyin%
11079     \LWR@origlistoftables%
11080     \endgroup%
11081   }
11082 }

```

## 78.2 toc commands

`\LWR@listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 276). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

11083 \NewDocumentCommand{\LWR@listof}{m +m}{%
11084   \ifundefined{L@#1}{%

```

```

11085     \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
11086     }{}%
11087     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
11088     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
11089     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
11090         \jobname.\@nameuse{ext@#1}\relax%
11091 }

```

### 78.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidedocname`, and may contain paragraphs.

Per table 18, CSS may be used to format the sideroc.

Table 18: CSS related to the sideroc

**div.sidetoccontainer:** The entire sideroc.

**div.sidetoctitle:** The title.

**div.sidetoccontents:** The table of contents.

```
11092 \end{warpHTML}
```

**for HTML & PRINT** 11093 \begin{warpall}

`SideTOCDepth (Ctr)` Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

11094 \newcounter{SideTOCDepth}
11095 \setcounter{SideTOCDepth}{1}
11096
11097 \AtEndDocument{%
11098     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
11099         \PackageWarningNoLine{lwarp}
11100         {%
11101             SideTOCDepth is less than FileDepth,\MessageBreak
11102             so some website pages may be inaccessible%
11103         }
11104     }{}
11105 }

```

`\sidedocname` Holds the default name for the sideroc.

```

11106 \newcommand{\sidedocname}{Contents}
11107 \end{warpall}

```

**for HTML output** 11108 \begin{warpHTML}

`\LWR@sideroc` Creates the actual side-TOC.

```
11109 \newcommand*\LWR@sideroc}{%
```

```
11110 \LWR@forcenewpage
11111 \LWR@stoppars
11112
```

The entire sidetoc is placed into a nav of class sidetoc.

```
11113 \LWR@htmlElementclass{div}{sidetoccontainer}
11114 \LWR@htmlElementclass{nav}{sidetoc}
11115
11116 \setcounter{tocdepth}{\value{SideTOCDepth}}
11117
```

The title is placed into a <div> of class sidetoc title, and may contain paragraphs.

```
11118 \begin{BlockClass}{sidetoc title}
11119 \ifcvoid{thetitle}{\InlineClass{sidetoc thetitle}{\thetitle}\par}
11120 \sidetocname
11121 \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoc contents.

```
11122 \begin{BlockClass}{sidetoc contents}
11123 \LinkHome
11124
11125 \LWR@myshorttoc{sidetoc}
11126 \end{BlockClass}
11127 \LWR@htmlElementclassend{nav}{sidetoc}
11128 \LWR@htmlElementclassend{div}{sidetoc container}
11129 }
```

## 78.4 Low-level toc line formatting

`\numberline {<number>}`

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
11130 \newcommand*\LWR@numberline[1]{%
11131 \LWR@sectionnumber{#1}\quad%
11132 }
11133
11134 \LetLtxMacro\numberline\LWR@numberline
```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```
11135 \newcommand*\LWR@maybetocdata{}
```

`\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}`

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1** is depth



**#2** is section, subsection, etc.

**#3** the text of the caption

**#4** page number

```
11136 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11137   \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to tocdepth:

```
11138   \ifnumcomp{#1}{>}{\value{tocdepth}}%
11139     {}%
11140     {%
11141     \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11142     \LWR@subhyperrefclass{%
11143     \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
11144     \LWR@origpound\LWR@print@inbox{autosec-#4}%
11145     }{#3}{toc#2}%

11146     \LWR@maybetocdata%

11147     \LWR@stoppars%
11148     }%
11149   \LWR@traceinfo{hypertoc done}%
11150 }
```

lofdepth (*Ctrl*) TOC depth for figures.

```
11151 \IfClassLoadedTF{memoir}{}{
11152   \newcounter{lofdepth}
11153   \setcounter{lofdepth}{1}
11154 }
```

lotdepth (*Ctrl*) TOC depth for tables.

```
11155 \IfClassLoadedTF{memoir}{}{
11156   \newcounter{lotdepth}
11157   \setcounter{lotdepth}{1}
11158 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5 page number**

```
11159 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
11160     \ifundefined{c@#3depth}{%
11161         \newcounter{#3depth}%
11162         \setcounter{#3depth}{1}%
11163     }{%
```

Respond to lofdepth, etc.:

```
11164     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
11165     \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}}%
11166     {%
11167         \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11168         \LWR@subhyperrefclass{%
11169         \LWR@htmlrefsectionfilename{%
11170             \BaseJobname-autopage-\arabic{LWR@nextautopage}%
11171         }%
11172         \LWR@origpound\LWR@print@mbx{autoid-\arabic{LWR@nextautoid}}}%
11173         {#4}{toc#2}%

11174         \LWR@maybetocdata%

11175         \LWR@stoppars%
11176     }%
11177     }%
11178 }
```

Automatically called by \contentsline:

```
\l@book {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
11179 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
11180 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
11181 \ifundefined{chapter}
11182 {}
11183 {
11184 \DeclareDocumentCommand{\l@chapter}{m m}
11185   {\hypertoc{0}{chapter}{#1}{#2}}
11186 }
```

`\l@section {<name>} {<page>}`

```
11187 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

`\l@subsection {<name>} {<page>}`

```
11188 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

`\l@subsubsection {<name>} {<page>}`

```
11189 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

`\l@paragraph {<name>} {<page>}`

```
11190 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

`\l@subparagraph {<name>} {<page>}`

```
11191 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

`\l@figure {<name>} {<page>}`

```
11192 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

`\l@table {<name>} {<page>}`

```
11193 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
11194 \end{warpHTML}
```

## 79 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/>

[how-to-mention-section-number-in-index-created-by-imakeidx](#)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in

the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output** 11195 `\begin{warpHTML}`

```
11196 \newcounter{LWR@autoindex}
11197 \setcounter{LWR@autoindex}{0}
11198
11199 \newcounter{LWR@autoglossary}
11200 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.  
`\IndexRangeSeparator`

```
11201 \newcommand*\IndexPageSeparator}{, }
11202 \newcommand*\IndexRangeSeparator}{--}
```

`theindex (enu)`

```
11203 \@ifundefined{chapter}
11204   {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
11205   {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
11206
11207
11208 \AtBeginDocument{
11209
11210 \renewenvironment*{theindex}{%
11211   \LWR@indexsection{\indexname}%
11212   \LetLtxMacro\item\LWR@indexitem%
11213   \LetLtxMacro\subitem\LWR@indexsubitem%
11214   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11215 }{}
11216
11217 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11218 \newcommand*\LWR@indexitem}[1][\@empty]{
11219
11220   \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11221 }
```

`\LWR@indexsubitem`

```
11222 \newcommand*\LWR@indexsubitem){
11223
11224   \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11225 }
```

`\LWR@indexsubsubitem`

```
11226 \newcommand*\LWR@indexsubsubitem){
11227
11228   \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11229 }
```

`\LWR@index@modifyentry {<indexing term>}`

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
11230 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}m}
11231   {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `\hyperindexformat` clause.

```
11232 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11233   \edef\LWR@tempone{#1}%
11234   \edef\LWR@temptwo{#2}%
11235   \IfValueTF{#2}{%
11236     \ifx#2(%
11237       \appto\LWR@tempone{|}%
11238     \else%
11239       \ifx#2)%
11240         \appto\LWR@tempone{|}%
11241       \else%
11242         \appto\LWR@tempone{%
11243           |hyperindexformat\LWRleftbrace%
11244           \LWRbackslash#2%
11245           \LWRrightbrace%
11246         }%
11247       \fi%
11248     \fi%
11249   }%
11250   {}%
11251 }
```

`LWR@index@tricked (bool)` Used to track *xindex* creation. See next.

```
11252 \newbool{LWR@index@tricked}
11253 \boolfalse{LWR@index@tricked}
```

`\@wrindex {<indexing term>}` Redefined to write the `LWR@autoindex` counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that `\hyperref` was used.

```
11254 \def\LWR@wrindex#1{%
11255   \ifbool{LWR@index}{%
11256     \ifbool{LWR@index@tricked}{%
11257       \protected@write\@indexfile{%
11258         {%
11259           \LWRpercent\space hyperpage\LWRrightbrace%
11260           \LWRpercent\space trick xindex to assume hyperref%
11261         }%
11262         \global\booltrue{LWR@index@tricked}%
11263       }%
11264       \LWR@index@modifyentry{#1}%
11265     }{%
11266       \def\LWR@tempone{#1}%
11267     }%
11268     \addtocounter{LWR@autoindex}{1}%

```

```
11269 \protected@write@indexfile{}%
11270 {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%
```

The label is assigned after the file write to avoid conflict with `cleveref`.

```
11271 \label{LWRindex-\arabic{LWR@autoindex}}%
11272 \endgroup%
11273 \@esphack%
11274 }
11275
11276 \AtBeginDocument{
11277 \let\@wrindex\LWR@wrindex
11278 }
```

`\@wrglossary {⟨term⟩}` Redefined to write the `LWR@autoglossary` counter instead of page.

```
11279 \def\@wrglossary#1{%
11280 \addtocounter{LWR@autoglossary}{1}%
11281 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11282 \protected@write@glossaryfile{}%
11283 {\string@glossaryentry{#1}{\theLWR@autoglossary}}%
11284 \endgroup%
11285 \@esphack%
11286 }
```

`\LWR@indexnameref@anonref {⟨LWR@autoindex⟩}`

Displays a reference link where there no `\ref` available.

```
11287 \newcommand*\LWR@indexnameref@anonref[1]{%
11288 \LWR@startref{LWRindex-#1}%
11289 (*)%
11290 \LWR@htmltag{/a}%
11291 }
```

`\LWR@indexnameref@ref {⟨LWR@autoindex⟩}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```
11292 \newcommand*\LWR@indexnameref@ref[1]{%
11293 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11294 \ifdefvoid{\LWR@thisref}{}%
11295 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11296 \ifdefvoid{\LWR@thisref}%
11297 {\LWR@indexnameref@anonref{#1}}%
11298 {\ref{LWRindex-#1}}%
11299 }%
11300 }
```

`\LWR@indexnameref@refnameref {⟨LWR@autoindex⟩}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or `??` objects, only the name is used.

```
11301 \newcommand*\LWR@indexnameref@refnameref[1]{%
```

```

11302 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11303 \ifdefvoid{\LWR@thisref}{}{%
11304     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11305     \ifdefvoid{\LWR@thisref}{}{%
11306         \ifdefstring{\LWR@thisref}{(*)}%
11307             {}%
11308             {\ref{LWRindex-#1} }% space
11309     }%
11310 }%
11311 \nameref{LWRindex-#1}%
11312 }

```

`\LWR@indexnameref@cref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

11313 \newcommand*{\LWR@indexnameref@cref}[1]{%
11314     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11315     \ifdefvoid{\LWR@thisref}{}%
11316         \nameref{LWRindex-#1}%
11317     }{%
11318         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11319         \ifdefvoid{\LWR@thisref}{}%
11320             \nameref{LWRindex-#1}%
11321         }{%
11322             \ifdefstring{\LWR@thisref}{(*)}{%
11323                 \LWR@indexnameref@anonref{#1}%
11324             }{%
11325                 \cref{LWRindex-#1}%
11326             }%
11327         }%
11328     }%
11329 }

```

`\LWR@indexnameref@crefnameref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

11330 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11331     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11332     \ifdefvoid{\LWR@thisref}%
11333         {}%
11334         {%
11335             \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11336             \ifdefvoid{\LWR@thisref}%
11337                 {}%
11338                 {%
11339                     \ifdefstring{\LWR@thisref}{(*)}%
11340                         {}%
11341                         {\cref{LWRindex-#1} }% space
11342                 }%
11343             }%
11344         \nameref{LWRindex-#1}%
11345     }

```

`\LWR@indexnameref`  $\langle LWR@autoindex \rangle$

Creates a hyperlink based on the given entry's autoindex.

```
11346 \newcommand*\LWR@indexnameref[1]{%
11347   {% group
```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11348     \ifdef{\caption@xref}{%
11349       \renewcommand*\caption@xref[2]{(*)}%
11350     }{%

11351     \ifdefstring{\LWR@IndexRef}{ref}{%
11352       \LWR@indexnameref@ref{#1}%
11353     }{%
11354     \ifdefstring{\LWR@IndexRef}{nameref}{%
11355       \nameref{\LWRindex-#1}%
11356     }{%
11357     \ifdefstring{\LWR@IndexRef}{refnameref}{%
11358       \LWR@indexnameref@refnameref{#1}%
11359     }{%
11360     \ifdefstring{\LWR@IndexRef}{cref}{%
11361       \LWR@indexnameref@cref{#1}%
11362     }{%
11363     \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11364       \LWR@indexnameref@crefnameref{#1}%
11365     }{%
11366     \ifdefstring{\LWR@IndexRef}{autoref}{%
11367       \LWR@indexnameref@cref{#1}%
11368     }{% text string
11369       \LWR@startref{\LWRindex-#1}%
11370       \LWR@IndexRef%
11371       \LWR@htmltag{/a}%
11372     }}}}]}%
11373   }% group
11374 }
```

`\LWR@doindexentrysubsub`  $\langle \text{range start: } LWR@autoindex, \text{ or macros.} \rangle \langle \text{range end or blank} \rangle$

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11375 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11376   \IfInteger{#1}%
11377     {\LWR@indexnameref{#1}}%
11378     {#1}%
11379   \IfValueT{#2}{%
11380     \IndexRangeSeparator%
11381     \IfInteger{#2}%
11382       {\LWR@indexnameref{#2}}%
11383       {#2}%
11384   }%
11385 }
```

`\LWR@doindexentrysub`  $\langle \text{range delimiter} \rangle \langle LWR@autoindex \text{ or macros, possible a range} \rangle$

```
11386 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
```




```
11387     {\LWR@doindexentrysubsub#2}
```

`\LWR@doindexentry`  $\langle$ *LWR@autoindex or macros, possible a range* $\rangle$

```
11388 \newcommand*{\LWR@doindexentry}[1]{%
11389     \relax% required
11390     \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11391 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . . }
```

```
11392 \newcommand{\LWR@hyperindexrefnullified}{%
11393     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11394     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11395     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11396     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11397     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11398     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11399     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
11400     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
11401     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11402     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11403     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11404     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11405     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11406 }
```

`\hyperindexref`  $\langle$ *list of LWR@autoindex, commas, and ranges* $\rangle$

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
11407 \newcommand*{\hyperindexref}[1]{%
11408     \relax% required
11409     \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11410 }
```

`\LWR@hyperindexref@comma`  $\langle$ *separator* $\rangle$   $\langle$ *list of args* $\rangle$

The list is split at commas, and passed to `\LWR@hyperindexref@@comma`.

```
11411 \NewDocumentCommand{\LWR@hyperindexref@comma}
11412     {m >\SplitList{#1}} m}
11413     {%
```

Used to place the separator between each entry, but not before the first.

```
11414 \def\LWR@hyperindexref@thiscomma{%
11415 \def\LWR@hyperindexref@nextcomma{#1}%
```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@comma.

```
11416 \ProcessList{#2}\LWR@hyperindexref@comma%
11417 }
```

\LWR@hyperindexref@comma {⟨*arg, perhaps with a range*⟩}

A comma separator is placed if not the first item, then the range is parsed.

```
11418 \newcommand*\LWR@hyperindexref@comma}[1]{%
11419 \LWR@hyperindexref@thiscomma%
11420 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11421 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11422 }
```

\LWR@hyperindexref@range {⟨*range delimiter*⟩} {⟨*arg*⟩}

```
11423 \NewDocumentCommand{\LWR@hyperindexref@range}
11424 {m >{\SplitArgument{1}{#1}} m}
11425 {\LWR@hyperindexrefsub#2}
```

\LWR@hyperindexrefsub {⟨*range start: LWR@autoindex*⟩} {⟨*range end, or -NoValue-*⟩}

Handles the start and end of a range, if applicable.

```
11426 \newcommand*\LWR@hyperindexrefsub}[2]{%
11427 \LWR@hyperindexrefsubtwo{#1}%
11428 \IfValueT{#2}{%
11429 \IndexRangeSeparator%
11430 \LWR@hyperindexrefsubtwo{#2}%
11431 }%
11432 }
```

\LWR@hyperindexrefsubtwo {⟨*LWR@autoindex*⟩}

```
11433 \newcommand*\LWR@hyperindexrefsubtwo}[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
11434 \edef\LWR@tempone{#1}%
11435 \IfBeginWith{\LWR@tempone}{ }{%
11436 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11437 }{%}
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
11438 \IfInteger{\LWR@tempone}%
11439 {\LWR@indexnameref{\LWR@tempone}}%
11440 {%
11441 \begingroup%
```

```

11442         \LWR@hyperindexrefnullified%
11443         #1%
11444         \endgroup%
11445     }%
11446 }

```

`\hyperpage` Emulate `hyperref`.

```
11447 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
11448 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

11449 \def\hyperindexformat#1#2{%
11450     #1{\hyperpage{#2}}%
11451 }%

11452 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

11453 \begin{warpprint}
11454 \newcommand{\hyperindexref}[1]{#1}
11455 \end{warpprint}

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11456 \begin{warpall}
11457 \providecommand{\glo@name}{}
11458 \end{warpall}

```

## 80 Bibliography presentation

**for HTML output:** 11459 `\begin{warpHTML}`

`\bibliography` `{\filenames}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel` `{\text-refnumber}`

```
11460 \renewcommand{\@biblabel}[1][#1]\quad
```

`thebibliography` (*enu*) To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

*Adapted from* `embracedef.sty`, *which is by* TAKAYUKI YATO:  
<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

11461 \AtBeginDocument{
11462
11463 \AtBeginEnvironment{thebibliography}{
11464
11465 \providecommand*\LWR@newem}[1]{\textit{#1}}
11466
11467 \renewrobustcmd{\em}{%
11468   \begingroup
11469     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11470     \afterassignment\LWR@em@after
11471     \toks@\bgroup
11472 }
11473
11474 \def\LWR@em@finish#1{%
11475   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11476   \endgroup
11477   \LWR@em@after\egroup
11478 }
11479
11480 }% \AtBeginEnvironment{thebibliography}
11481
11482 }% \AtBeginDocument

11483 \end{warpHTML}

```

## 81 Restoring original formatting

**for HTML output** `\begin{warpHTML}`

`\LWR@restoreMathJaxformatting` A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11485 \newcommand*\LWR@restoreMathJaxformatting){}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

11486 \newcommand*\LWR@restoreorigformatting){%
11487   \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

11488   \renewcommand*\LWR@formatting}{print}%
11489   \linespread{1}%

```

```

11490   \setbool{LWR@doingparhooks}{false}%

11491   \def\color@endgroup{\endgraf\endgroup}%

11492   \LetLtxMacro\hfil\LWR@origfil%
11493   \let\hss\LWR@orighss%
11494   \let\llap\LWR@origllap%
11495   \let\rlap\LWR@origrlap%
11496   \let\hfilneg\LWR@origfilneg%

11497   \let\,\LWR@origcomma% disable HTML short unbreakable space
11498   \let\textless\LWR@origtextless%
11499   \let\textgreater\LWR@origtextgreater%

11500   \let&\LWR@origampersand%

11501   \LetLtxMacro\em\LWR@origem%
11502   \LetLtxMacro\normalfont\LWR@orignormalfont%
11503   \let\sp\LWR@origsp%
11504   \let\sb\LWR@origsb%
11505   \LetLtxMacro\underline\LWR@origunderline%
11506   \let~\LWR@origtilde%

```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11507   \LetLtxMacro\endtabular\LWR@origendtabular%
11508   \csletcs{endtabular*}{LWR@origendtabular*}%

11509   \LetLtxMacro\noalign\LWR@orignoalign%
11510   \LetLtxMacro\hline\LWR@orighline%

11511   \let\newline\LWR@orignewline%
11512   \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11513   \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

11514   \let\math\LWR@orig@math%
11515   \let\endmath\LWR@orig@endmath%
11516   \let\displaymath\LWR@orig@displaymath%
11517   \let\enddisplaymath\LWR@orig@enddisplaymath%
11518 %
11519   \LWR@restoreorigaccents%
11520   \LWR@restoreoriglists%

11521   \let\@mpfootnotetext\LWR@orig@mpfootnotetext%

11522   \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

11523   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11524     {\LWR@restoreMathJaxformatting}%
11525     {}%
11526 }

```

```
11527 \end{warpHTML}
```

## 82 Nullifying filename formatting


The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output** 11528 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11529 \newcommand*\LWR@dash}{-}
```

`\LWR@nullfonts` Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```
11530 \catcode'\$=\active% redefining $ below
11531 \catcode'\_ =12% redefining \_ below
11532 \newcommand*\LWR@nullfonts}{%
```

Various built-in symbols.

```
11533 \renewcommand*\$}{-}%
11534 \renewcommand*\%}{-}%
11535 \renewcommand*\_}{-}%
11536 \renewcommand*\}{-}%
11537 \renewcommand*\{ }{-}%
11538 \renewcommand*\&}{-}% used to be 'and'
11539 \renewcommand*\#}{-}%
11540 \renewcommand*\, }{-}%
11541 \renewcommand*\~}{-}%
11542 %
11543 % accents:
11544 \renewcommand*\`}[1]{##1}%
11545 \renewcommand*\'}[1]{##1}%
11546 \renewcommand*\^[1]{##1}%
11547 \renewcommand*\~}[1]{##1}%
11548 \renewcommand*\=[1]{##1}%
11549 \renewcommand*\u}[1]{##1}%
11550 \renewcommand*\.[1]{##1}%
11551 \renewcommand*\"[1]{##1}%
11552 \renewcommand*\H}[1]{##1}%
11553 \renewcommand*\v}[1]{##1}%
11554 \renewcommand*\d}[1]{##1}%
11555 \renewcommand*\c}[1]{##1}%
11556 \renewcommand*\b}[1]{##1}%
11557 \renewcommand*\t}[1]{##1}%
11558 %
11559 \let\newline\LWR@dash%
11560 \let\textasciicircum\LWR@dash%
```

```

11561 \let\textasciitilde\LWR@dash%
11562 \let\textasteriskcentered\LWR@dash%
11563 \let\textbackslash\LWR@dash%
11564 \let\textbar\LWR@dash%
11565 \let\textbardbl\LWR@dash%
11566 \let\textbigcircle\LWR@dash%
11567 \let\textbraceleft\LWR@dash%
11568 \let\textbraceright\LWR@dash%
11569 \let\textbullet\LWR@dash%
11570 \let\textcopyright\LWR@dash%
11571 \let\textdagger\LWR@dash%
11572 \let\textdaggerdbl\LWR@dash%
11573 \let\textdollar\LWR@dash%
11574 \let\textellipsis\LWR@dash%
11575 \let\textemdash\LWR@dash%
11576 \let\textendash\LWR@dash%
11577 \let\textexclamdown\LWR@dash%
11578 \let\textgreater\LWR@dash%
11579 \let\textless\LWR@dash%
11580 \let\textordfeminine\LWR@dash%
11581 \let\textordmasculine\LWR@dash%
11582 \let\textparagraph\LWR@dash%
11583 \let\textperiodcentered\LWR@dash%
11584 \let\textpertenthousand\LWR@dash%
11585 \let\textperthousand\LWR@dash%
11586 \let\textquestiondown\LWR@dash%
11587 \let\textquotedblleft\LWR@dash%
11588 \let\textquotedblright\LWR@dash%
11589 \let\textquoteleft\LWR@dash%
11590 \let\textquoteright\LWR@dash%
11591 \let\textregistered\LWR@dash%
11592 \let\textsection\LWR@dash%
11593 \let\textsterling\LWR@dash%
11594 \let\texttrademark\LWR@dash%
11595 \let\textunderscore\LWR@dash%
11596 \let\textvisiblespace\LWR@dash%
11597 \let\copyright\LWR@dash%
11598 \let\dag\LWR@dash%
11599 \let\ddag\LWR@dash%
11600 \let\dots\LWR@dash%
11601 \let\P\LWR@dash%
11602 \let\pounds\LWR@dash%
11603 \let\S\LWR@dash%
11604 %
11605 \renewcommand*\aa{a}%
11606 \renewcommand*\AA{A}%
11607 \renewcommand*\AE{AE}%
11608 \renewcommand*\ae{ae}%
11609 \renewcommand*\dh{d}%
11610 \renewcommand*\DH{D}%
11611 \renewcommand*\DJ{D}%
11612 \renewcommand*\dj{d}%
11613 \renewcommand*\IJ{IJ}%
11614 \renewcommand*\ij{ij}%
11615 \renewcommand*\L{L}%
11616 \renewcommand*\l{l}%
11617 \renewcommand*\NG{NG}%
11618 \renewcommand*\ng{ng}%
11619 \renewcommand*\O{O}%
11620 \renewcommand*\o{o}%

```

```

11621 \renewcommand*\oe}{oe}%
11622 \renewcommand*\OE}{OE}%
11623 \renewcommand*\ss}{ss}%
11624 \renewcommand*\SS}{SS}%
11625 \renewcommand*\th}{th}%
11626 \renewcommand*\TH}{TH}%
11627 %
11628 \let\guillemotleft\@empty%
11629 \let\guilsinglleft\@empty%
11630 \let\quotedblbase\@empty%
11631 \let\textquotedbl\@empty%
11632 \let\guillemotright\@empty%
11633 \let\guilsinglright\@empty%
11634 \let\quotesinglbase\@empty%

11635 \renewcommand*\HTMLUnicode}[1]{}%
11636 \renewcommand*\HTMLentity}[1]{}%

11637 \renewcommand{\textsuperscript}[1]{##1}%
11638 \renewcommand{\textsubscript}[1]{##1}%

11639 \renewcommand{\underline}[1]{##1}%

11640 \RenewDocumentCommand{\hspace}{s m}{}%

11641 \RenewDocumentCommand{\LWRhtmlspanclass}{o D(){} m +m}{##4}%
11642 \DeclareExpandableDocumentCommand{\InlineClass}{D{(){} }{ o m +m}{##4}%

```

#### Nullify math macros.

```

11643 \def\{##1\}{}%
11644 \def\[##1\]{}%
11645 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

#### Nullify logos:

```

11646 \renewcommand*\TeX}{TeX}%
11647 \renewcommand*\LaTeX}{LaTeX}%
11648 \renewcommand*\LaTeXe}{LaTeX2e}%
11649 \renewcommand*\LuaTeX}{LuaTeX}%
11650 \renewcommand*\LuaLaTeX}{LuaLaTeX}%
11651 \renewcommand*\XeTeX}{XeTeX}%
11652 \renewcommand*\XeLaTeX}{XeLaTeX}%
11653 \renewcommand*\ConTeXt}{ConTeXt}%
11654 \renewcommand*\BibTeX}{BibTeX}%
11655 \renewcommand*\MakeIndex}{MakeIndex}%
11656 \renewcommand*\AmS}{AmS}%
11657 \renewcommand*\MiKTeX}{MiKTeX}%
11658 \renewcommand*\LyX}{LyX}%

```

#### Use the simpler form with `\texorpdfstring`:

```

11659 \def\texorpdfstring{\expandafter\@secondoftwo}%
11660 }
11661 \catcode'\$=3%
11662 \catcode'\_ =8%

```



`\FilenameNullify` {<*redefinitions*>}

Adds more nullifying definitions for filename generation.

```
11663 \newcommand*\FilenameNullify[1]{%
11664   \appto{\LWR@nullfonts}{#1}%
11665 }

11666 \end{warpHTML}
```

## 83 Math

### 83.1 Limitations

See [Math](#), section 8.7.

### 83.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT** 11667 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.  
Default: (

```
11668 \newcommand*\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.  
Default: )

```
11669 \newcommand*\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.  
Default: image

```
11670 \newcommand*\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.  
Default: "math image"

```
11671 \newcommand*\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11672 \newcommand*\LWR@ThisAltText}{}
```

`\ThisAltText`  $\langle text \rangle$

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
11673 \newcommand*\ThisAltText[1]{%
11674   \renewcommand{\LWR@ThisAltText}{#1}%
11675 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many packages.  
Default: “`diagram`”

```
11676 \newcommand*\PackageDiagramAltText{diagram}
11677 \end{warppall}
```

### 83.3 Inline and display math

**for HTML output** 11678 `\begin{warppHTML}`

`LWR@externalfilecnt` (*Ctr*) Counter for the external files which are generated and then referenced from the HTML:

```
11679 \newcounter{LWR@externalfilecnt}
```

`LWR@indisplaymathimage` (*bool*) True if processing display math for `svg` output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11680 \newbool{LWR@indisplaymathimage}
```

`LWR@insidemathcomment` (*bool*) True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label’s HTML tags will be seen by HTML.

```
11681 \newbool{LWR@insidemathcomment}
11682 \boolfalse{LWR@insidemathcomment}
```

`LWR@xfakebold` (*bool*) True if `xfakebold` `\setBold` is in use.

```
11683 \newbool{LWR@xfakebold}
11684 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11685 \newcommand*\LWR@orig@setBold{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11686 \newcommand*\LWR@orig@unsetBold{}
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11687 \newcommand*\LWR@applyxfakebold{}
```

`\LWR@setcurrentfont` Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```

11688 \newcommand*{\LWR@setcurrentfont}{%
11689   \LWR@traceinfo{Using font family \LWR@f@family}%
11690   \@nameuse{\LWR@print@\LWR@f@family family}%
11691   \LWR@traceinfo{Using font series \LWR@f@series}%
11692   \@nameuse{\LWR@print@\LWR@f@series series}%
11693   \LWR@traceinfo{Using font shape \LWR@f@shape}%
11694   \@nameuse{\LWR@print@\LWR@f@shape shape}%
11695   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11696   \@nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11697 }

```

`\$` Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```

11698 \let\LWR@origtextdollar\$
11699
11700 \renewcommand*{\$}{%
11701   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11702     {\LWR@origtextdollar}%
11703     {\HTMLUnicode{00024}}%
11704 }

```

`lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width.  
*(file)* If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

`lwarp_baseline_marker.eps`  
*(file)* the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither `graphics` package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using `graphicx`.

`\LWR@addbaselinemarker` Places a small marker in an SVG inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

11705 \AtBeginDocument{
11706
11707 \ifpdf
11708   \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11709 \else
11710   \ifXeTeX
11711     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11712   \else
11713     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}

```

```

11714 \fi
11715 \fi
11716
11717 \IfFileExists{\LWR@baselinename}%
11718 {
11719 \IfPackageLoadedTF{graphicx}{
11720 \newcommand*\LWR@addbaselinemarker}{%
11721 \LWR@originincludegraphics{\LWR@baselinename}%
11722 }
11723 }{
11724 \IfPackageLoadedTF{graphics}{
11725 \newcommand*\LWR@addbaselinemarker}{%
11726 \LWR@originincludegraphics{\LWR@baselinename}%
11727 }
11728 }{
11729 \newcommand*\LWR@addbaselinemarker}{%
11730 \global\booltrue{LWR@warnbaselinemarker}%
11731 }
11732 \AtEndDocument{
11733 \ifbool{LWR@warnbaselinemarker}{
11734 \PackageNoteNoLine{lwarp}{%
11735 Load graphicx or graphics for improved\MessageBreak
11736 SVG math sizing and baselines%
11737 }
11738 }{}
11739 }
11740 }
11741 }
11742 }{% lwarp_baseline_marker.png or .eps is not present
11743 \newcommand*\LWR@addbaselinemarker}{%
11744 \global\booltrue{LWR@warnbaselinemarker}%
11745 }
11746 \AtEndDocument{
11747 \ifbool{LWR@warnbaselinemarker}{
11748 \PackageWarningNoLine{lwarp}{%
11749 File \LWR@baselinename\space is not installed\MessageBreak
11750 alongside the lwarp-*.sty files, so\MessageBreak
11751 SVG math sizing and baselines may not be accurate}
11752 }{}
11753 }
11754 }
11755
11756 }% AtBeginDocument

```

`LWR@warnbaselinemarker` (*bool*) True if the math baseline marker was ever called for, but `graphicx` or `graphics` were not loaded.

```

11757 \newbool{LWR@warnbaselinemarker}
11758 \boolfalse{LWR@warnbaselinemarker}

```

`LWR@unknownmathsize` (*bool*) If `TikZ` or other objects are used inside math mode, the resulting image may exceed the `TeX` box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the `HTML` styles for image size and depth will be neutralized.

```

11759 \newbool{LWR@unknownmathsize}

```

```
\LWR@singledollarmeasure {<math expression>}
```

Measures the size of the image of the math expression.

(In some circumstances `svg math` is used even if `MATHJAX` is preferred.)

**svg math:** `\LWR@origensuredmath` is part of argument #4.

**svg math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**svg dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
11760 \newcommand*{\LWR@singledollarmeasure}[1]{%
11761   \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11762   \LWR@restoreorigformatting%
11763   \RenewDocumentEnvironment{lateximage}{s o s o o d()}{}{}% inside group
11764   \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11765   \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags.  $\mathcal{M}\mathcal{S}$  `math` modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11766   \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11767   \boolfalse{LWR@unknownmathsize}%
11768   \ifmmode%
11769     \global\abox{\LWR@singledollarbox}{#1}%
11770   \else%
11771     \ifbool{LWR@dynamicmath}{%
11772       \ifbool{mathjax}{%
11773         \global\abox{\LWR@singledollarbox}%
11774           {\LWR@origensuredmath{#1}}%
11775       }{%
11776         \global\abox{\LWR@singledollarbox}{#1}%
11777       }%
11778     }{%
11779       \global\abox{\LWR@singledollarbox}{#1}%
11780     }%
11781   \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
11782   \global\sbox{\LWR@singledollarbox}{%
11783     \usebox{\LWR@singledollarbox}%
11784     \raisebox{-\dp\LWR@singledollarbox}{%
11785       \LWR@addbaselinemarker%
11786     }%
11787   }%
```

More low-level code to undo the counter change.

```
11788   \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11789   \setlength{\LWR@singledollardepth}{%
11790     \LateximageFontScale\dp\LWR@singledollarbox%
11791   }%
```

Make the length a global change:

```
11792   \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11793   \setlength{\LWR@singledollarwidth}{%
11794     \LateximageFontScale\wd\LWR@singledollarbox%
11795   }%
11796   \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11797   \setlength{\LWR@singledollarheight}{%
11798     \LateximageFontScale\ht\LWR@singledollarbox%
11799   }%
11800   \addtolength{\LWR@singledollarheight}{%
11801     \LateximageFontScale\dp\LWR@singledollarbox%
11802   }%
11803   \global\LWR@singledollarheight=\LWR@singledollarheight%

11804   \endgroup%
11805 }
```

```
\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}
```

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```
11806 \newcommand*{\LWR@subsingledollarsvg}[4]{%
11807   \LWR@traceinfo{\LWR@subsingledollarsvg}%
```

Measure the depth, width, and height of the math image:

```
11808   \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
11809   \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11810     \def\LWR@singledollarstyle{%
11811       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11812     }%
11813   }{%
11814     \def\LWR@singledollarstyle{%
11815       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11816     }%
11817   }%
```

If a very narrow width, use the height.

```
11818   \ifdimless{\LWR@singledollarwidth}{.2em}%
11819   {%
11820     \def\LWR@singledollarstyle{%
11821       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11822     }%
11823   }%
11824   }%
```

If very wide and short, use the width:

```
11825   \ifdimless{\LWR@singledollarheight}{.2em}%
11826   {%
11827     \def\LWR@singledollarstyle{%
11828       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11829     }%
11830   }%
11831   }%
```

If there is significant text depth, add the depth to the style.

```
11832   \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11833     \def\LWR@singledollardepthstyle{%
11834       \ ; % extra space
11835       \LWR@print@embox{%
11836         vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11837       } % extra space
11838     }%
11839   }{%
11840     \def\LWR@singledollardepthstyle{}%
11841   }%
```

If using certain TikZ actions inside math, the resulting image may exceed the T<sub>E</sub>X boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

11842 \ifbool{LWR@unknownmathsize}{%
11843     \def\LWR@singledollarstyle{}%
11844     \def\LWR@singledollardepthstyle{}%
11845 }{}%

```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11846 \ifbool{LWR@dynamicmath}{%
11847     \LWR@traceinfo{subsingledollarsvg: dynamic}%
11848     \begin{lateximage}% no hashing
11849         [\MathImageAltText]% alt tag
11850         [% no add'l hashing
11851         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11852         (math)% ARIA
11853     }{% not dynamic math
11854         \LWR@traceinfo{subsingledollarsvg: static}%
11855         \IfValueTF{#1}{% #1 True
11856             \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

11857     \ifbool{LWR@xfakebold}%
11858         {\def\LWR@tempone{Y}}%
11859         {\def\LWR@tempone{N}}%

11860     \LWR@traceinfo{subsingledollarsvg about to lateximage}%
11861     \begin{lateximage}*% use hashing
11862         [#2]% alt
11863         *% do not add open/closing braces
11864         [% add'l hashing
11865         #3%
11866         FM\LWR@f@family%
11867         SR\LWR@f@series%
11868         SH\LWR@f@shape%
11869         SHC\LWR@f@shapecaps%
11870         CL\LWR@tempcolor%
11871         FB\LWR@tempone% xfakebold
11872         ]%
11873         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11874         (math)% ARIA
11875         \LWR@traceinfo{subsingledollar did lateximage}%
11876     }{% #1 False
11877         \begin{lateximage}% no hashing
11878         [#2]% alt
11879         [% no add'l hashing
11880         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11881         (math)% ARIA
11882     }%
11883 }{% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)



11884 \LWR@addbaselinemarker%

Support for xfakebold:

11885 \LWR@applyxfakebold%

Typeset the contents:

11886 \usebox{\LWR@singledollarbox}%

The closing baseline marker:

11887 \LWR@addbaselinemarker%

11888 \end{lateximage}%

11889 %

11890 }

`\LWR@subsingledollar * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}`

For inline math. Uses MATHJAX, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T<sub>E</sub>X expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

11891 \newlength{\LWR@singledollarwidth}

11892 \newlength{\LWR@singledollarheight}

11893 \newlength{\LWR@singledollardepth}

11894

11895 \newsavebox{\LWR@singledollarbox}

```

11896
11897 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11898   \LWR@traceinfo{\LWR@subsingledollar !#2!}%

11899   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11900   {%
11901     \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11902     #4% contents
11903   }%
11904   {% not in a lateximage
11905     \begingroup%

```

Support for xfakebold:

```

11906   \LWR@applyxfakebold%

```

MATHJAX cannot parse the often complicated T<sub>E</sub>X expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MATHJAX. Likewise for `siunitx` if `parse-numbers=false`.

If MATHJAX, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

11907   \ifboolexpr{%
11908     (
11909       bool{\mathjax} or
11910       ( bool{\FormatWP} and bool{\WPMarkMath} )
11911     ) and
11912     ( not test {
11913       \ifstrequal {#2}% from \ensuredmath
11914         {\AltTextOpen\MathImageAltText\AltTextClose}
11915     }
11916     ) and
11917     ( not bool{\LWR@dynamicmath} )
11918   }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11919   {%
11920     \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11921   }%
11922     \textbackslash(%
11923   }%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

11924           \ifmmode\else\LWR@print@ttfamily\fi%
11925           \LWR@HTMLsanitizedetokenized{\detokenize{#4}}%
11926         }%
11927         \textbackslash)%
11928       }%
11929     }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a CSS style to control the baseline adjustment.

```

11930      {% not mathjax
11931          \LWR@traceinfo{%
11932              LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11933          }%
11934          \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11935      }% not mathjax
11936      \endgroup%
11937  }% not in a lateximage

```

Clear the single-use alt text:

```

11938      \gdef\LWR@ThisAltText{%
11939          \LWR@traceinfo{LWR@subsingledollar: done}%
11940  }

11941 \LetLtxMacro\LWR@origdollar$
11942 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

11943 \LetLtxMacro\LWR@origopenparen\(  

11944 \LetLtxMacro\LWR@origcloseparen\  

11945 \LetLtxMacro\LWR@origopenbracket\  

11946 \LetLtxMacro\LWR@origclosebracket\  


```

\$ Redefine the dollar sign to place math inside a lateximage, or use MATHJAX:

```

$$
11947 \begingroup
11948 \catcode'\$=\active%
11949 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by chemformula to escape single-dollar math:

```

11950 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

\LWR@doubledollar Redefine the double dollar sign to place math inside a lateximage, or use MATHJAX:

```

11951 \protected\gdef\LWR@doubledollar$#1$${%

```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

11952      \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

For MATHJAX, print the math between  $[$  and  $\]$ . If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.

```

11953      {% intentional blank line:
11954
11955          \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and \LWR@hidelatexequation will use the original print-mode meaning of math.

```

11956          \LWR@hidelatexequation{math}{#1}%

```

```

11957         \InlineClass{hidden}{\LWR@syncnotenumbers}%
11958         \textbackslash[%
11959         {%
11960             \LWR@print@ttfamily%
11961             \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
11962         }%
11963         \textbackslash]
11964         \InlineClass{hidden}{\LWR@syncnotenames}%
11965     }{%
11966         \textbackslash[%
11967         {%
11968             \LWR@print@ttfamily%
11969             \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
11970         }%
11971         \textbackslash]
11972     }%
11973
11974 }% mathjax

```

For svg, print the math inside a lateximage, with an <alt> tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

11975     {% not mathjax
11976         \begin{BlockClass}{displaymath}%
11977         \LWR@newautoidanchor%
11978         \booltrue{\LWR@indisplaymathimage}%
11979         \begin{lateximage}%
11980         [%
11981             \textbackslash{[} % extra space
11982             \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
11983             \textbackslash{]}%
11984         ]%
11985         *% do not add open/closing braces
11986         (math)% ARIA

```

Support for xfakebold:

```

11987         \LWR@applyxfakebold%

11988         \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11989         \end{lateximage}%
11990         \end{BlockClass}%
11991     }% not mathjax

```

Clear the single-use alt text:

```

11992     \gdef\LWR@ThisAltText{%
11993 }%

```

`\LWR@singledollar {<math expression>}`

```

11994 \protected\gdef\LWR@singledollar#1${%
11995     \LWR@traceinfo{\LWR@singledollar}%
11996     \ifbool{mathjax}{%
11997         \LWR@subsingledollar*%
11998         {% alt tag
11999             \textbackslash( %
12000             \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space

```

```

12001         \textbackslash)%
12002     }%
12003     {singledollar}% add'l hashing
12004     {#1}% contents
12005 }{% not mathjax
12006     \LWR@subsingledollar*%
12007     {% alt tag
12008         \textbackslash( %
12009         \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12010         \textbackslash)%
12011     }%
12012     {singledollar}% add'l hashing
12013     {\LWR@origensuredmath{#1}}% contents
12014 }{% not mathjax

```

Clear the single-use alt text:

```

12015     \gdef\LWR@ThisAltText{%
12016 }

```

$\langle$  Redefine to the above dollar macros.

```

\langle
12017 \AtBeginDocument{
12018     \protected\gdef\(#1\){$#1$}
12019     \protected\gdef\[#1\]{$$#1$$}
12020 }
12021
12022 \endgroup% active $

12023 \AtBeginDocument{
12024 \LetLtxMacro\LWR@openbracketnormal\langle
12025 \LetLtxMacro\LWR@closebracketnormal\rangle
12026 }

```

$\backslash@ensuredmath$   $\langle$ *expression* $\rangle$

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex TEX expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

12027 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
12028
12029 \renewcommand{\@ensuredmath}[1]{%
12030     \ifbool{mathjax}{%
12031         \LWR@subsingledollar*\AltTextOpen\MathImageAltText\AltTextClose}%
12032     }%
12033     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
12034     }%
12035     {%
12036         \relax%
12037         \LWR@origensuredmath{#1}%
12038     }%
12039 }{% SVG math

```

If already inside a `lateximage` in `math` mode, continue as-is.

```

12040     \ifmmode%

```

```
12041         \LWR@origensuredmath{#1}%
12042     \else%
```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```
12043         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
12044             {\LWR@origensuredmath{#1}}%
12045             {%
12046                 \LWR@subsingledollar*%
12047                 {\AltTextOpen\MathImageAltText\AltTextClose}%
12048                 {%
12049                     \protect\LWR@HTMLsanitizedetokenized{%
12050                         \detokenize\expandafter{#1}}%
12051                     }%
12052                 }%
12053             }{\LWR@origensuredmath{#1}}%
12054         }%
12055     \fi%
12056 }%
```

Clear the single-use `alt` text:

```
12057     \gdef\LWR@ThisAltText{%
12058 }
```

Remember then remove the old `math` and `displaymath` environments:

```
12059 \let\LWR@orig@math\math
12060 \let\LWR@orig@endmath\endmath
12061
12062 \let\LWR@orig@displaymath\displaymath
12063 \let\LWR@orig@enddisplaymath\enddisplaymath
12064
12065 \let\math\relax
12066 \let\endmath\relax
12067
12068 \let\displaymath\relax
12069 \let\enddisplaymath\relax
```

`math` (*env.*) Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```
12070 \NewEnviron{math}{\expandafter\(\BODY\)}
```

`LWR@displaymathnormal` (*env.*) Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```
12071 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```
12072 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12073 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

`LWR@displaymathother` (*env.*) A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12074 \newenvironment{LWR@displaymathother}
12075 {%
12076   \begin{BlockClass}{displaymath}%
12077   \LWR@newautoidanchor%
12078   \booltrue{LWR@indisplaymathimage}%
12079   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
12080   \LWR@origdollar\LWR@origdollar%
12081 }
12082 {%
12083   \LWR@origdollar\LWR@origdollar%
12084   \end{lateximage}%
12085   \end{BlockClass}%
12086 }

```

`LWR@equationother` (*env.*) A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12087 \newenvironment{LWR@equationother}
12088 {%
12089   \begin{BlockClass}{displaymathnumbered}%
12090   \LWR@newautoidanchor%
12091   \booltrue{LWR@indisplaymathimage}%
12092   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
12093   \LWR@orig@equation%
12094 }
12095 {%
12096   \LWR@orig@endequation%
12097   \end{lateximage}%
12098   \end{BlockClass}%
12099 }

```

## 83.4 MATHJAX support

`LWR@nextequation` (*Ctr*) Used to add one to compute the next equation number.

```
12100 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

12101 \newcommand\LWR@article@theequation{\@arabic\c@equation}
12102
12103 \newcommand\LWR@book@theequation
12104   {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
12105
12106
12107 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
12108 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
12109 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
12110
12111 \AtBeginDocument{
12112   % default per article class:
12113   \newcommand*\theMathJaxsubequations{\0}
12114   \newcommand*\theMathJaxsection{}}

```

```

12115 \newcommand*\theMathJaxequation{\arabic{equation}}
12116
12117 \ifdefstrequal{\theequation}{\LWR@article@theequation}
12118 {}{
12119 \ifdefstrequal{\theequation}{\LWR@book@theequation}{
12120 \renewcommand*\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
12121 }{
12122 \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
12123 \renewcommand*\theMathJaxsection}{\thesubsection{.}}
12124 }{
12125 \ifdefstrequal{\theequation}{\LWR@section@theequation}{
12126 \renewcommand*\theMathJaxsection}{\thesection{.}}
12127 }{
12128 \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
12129 \renewcommand*\theMathJaxsection}{\thechapter{.}}
12130 }{% unknown format
12131 \PackageWarningNoLine{lwarp}
12132 {%
12133 Unknown equation tag format for \protect\theequation.\MessageBreak
12134 Article-style equation numbering will be used%
12135 }
12136 }}}}
12137 }

```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(" and “\)” characters. They are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12138 \newcommand*\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X equation number.

Before each equation, `lwarp` inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is 0 usually, 1 if inside `amsmath` subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

12139 \LWR@stoppars%
12140 \InlineClass{hidden}{
12141 \textbackslashash(%
12142 \textbackslashash{ }\seteqnumber%
12143 {\theMathJaxsubequations}%
12144 {\theMathJaxsection}%
12145 {\theMathJaxequation}%
12146 \textbackslashash)%
12147 }
12148 \LWR@startpars%
12149 }

```



`\LWR@hidelatexequation`  $\{\langle environment \rangle\} \{\langle contents \rangle\}$

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
12150 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```
12151   \LWR@stoppars
12152   \LWR@htmlopencomment
12153 }
```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12154   \begingroup
12155   \@nameuse{\LWR@orig@#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```
12156   \LWR@restoreorigformatting
12157   \booltrue{\LWR@insidemathcomment}
```

Temporarily prevent underfull `\hbox` warnings.

```
12158   \hbadness=10000\relax%
```

See `\LWR@htmlmathlabel` in section [83.7.1](#).

Print the contents of the equation:

```
12159   #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12160   \@nameuse{\LWR@orig@end#1}
12161   \endgroup
12162 }
```

Close the HTML comment and resume HTML paragraph handling:

```
12163   \LWR@htmlclosecomment
12164   \boolfalse{\LWR@insidemathcomment}
12165   \LWR@startpars
12166 }
```

`\LWR@addmathjax`  $\{\langle environment name \rangle\} \{\langle contents \rangle\}$

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12167 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

```
12168   \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(" and “\)” characters. Print the environment name and contents, sanitizing for HTML special characters.

```

12169   {%
12170     \LWR@print@ttfamily%
12171     \textbackslash{}begin\{#1\}

```

The `alignat` environment takes a mandatory argument, which must be replicated here.

```

12172     \ifboolexpr{
12173       test {\ifstrequal{#1}{alignat}} or
12174       test {\ifstrequal{#1}{alignat*}} or
12175       test {\ifstrequal{#1}{alignat+}}
12176     }%
12177     {\{\varabic{LWR@maxfields@}\}}%
12178     }%

```

The environment contents and `\end`:

```

12179     \LWR@orignewline%
12180     \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#2}}%
12181     \LWR@orignewline%
12182     \textbackslash{}end\{#1\}
12183   }%

12184 \LWR@orignewline
12185 }

```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```

12186 \AtBeginDocument{
12187   \let\LWR@orig@equation\equation
12188   \let\LWR@orig@endequation\endequation
12189   \csletcs{LWR@orig@equation*}{equation*}
12190   \csletcs{LWR@orig@endequation*}{endequation*}
12191 }

```

`\LWR@doequation`  $\langle env\ contents \rangle$   $\langle env\ name \rangle$

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\LaTeX$  source for the math.

For `MATHJAX` output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the `MATHJAX` script.

```

12192 \newcommand*\LWR@doequation}[2]{%
12193

```

If `mathjax` or `FormatWP`, print the  $\LaTeX$  expression:

```

12194   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

`MATHJAX` output:

```

12195   {

```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
12196      \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
12197      \LWR@hidelatexequation{#2}{#1}
12198      }
```

SVG output: Create the lateximage along with an HTML <alt> tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's \BODY.

```
12199      {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
12200      \ifstrequal{#2}{equation*}{%
12201          \begin{BlockClass}{displaymath}%
12202      }{%
12203          \begin{BlockClass}{displaymathnumbered}%
12204      }%
12205      \LWR@newautoidanchor%
12206      \booltrue{LWR@indisplaymathimage}%
12207      \begin{lateximage}[%
12208          \ifstrequal{#2}{equation*}{%
12209              \ifdefequal{\LWR@equationtag}{\theequation}{%
12210                  % no tag was given
12211                  }{%
12212                      (\LWR@equationtag) % tag was given
12213                  }%
12214              }{%
12215                  (\LWR@equationtag) % automatic numbering
12216              }%
12217          \textbackslash{begin\{#2\}} % extra space
12218          \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#1}} % extra space
12219          \textbackslash{end\{#2\}}}%
12220      ]*(math)% alt tag, ARIA
```

Support for xfakebold:

```
12221      \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the lateximage using the contents of the environment.

```
12222      \@nameuse{LWR@orig@#2}%
12223      #1% contents collected by \collect@body
12224      \@nameuse{LWR@orig@end#2}%
12225      \end{lateximage}%
12226      \end{BlockClass}%
12227      }% not mathjax
```

Clear the single-use alt text:

```
12228      \gdef\LWR@ThisAltText{%
12229      }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

12230 \newcommand*{\LWR@doendequation}[1]{%
12231   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
12232   {%
12233     \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12234       \InlineClass{hidden}{\LWR@syncnotenumbers}%
12235       \LWR@addmathjax{#1}{\BODY}%
12236       \InlineClass{hidden}{\LWR@syncnotenames}%
12237     }{%
12238       \LWR@addmathjax{#1}{\BODY}%
12239     }%
12240   }{%
12241

```

Clear the single-use alt text:

```

12242   \gdef\LWR@ThisAltText{%
12243 }

```

The following are used to synchronize footnote marks and related to MATHJAX if `*note*` is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenumbers` {*MathJax variable*} {*mark*}

```

12244 \newcommand*{\LWR@synconenotenumbers}[2]{%
12245   \textbackslash(
12246   \textbackslash{def}\textbackslash{#1}\{#2\}
12247   \textbackslash)
12248 }

```

`\LWR@syncnotenumbers` Assignments to make.

```

12249 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumbers{\LWRfootnote}{\thefootnote}}

```

`\LWR@synconenotename` {*MathJax variable*} {*text*}

```

12250 \newcommand*{\LWR@synconenotename}[2]{%
12251   \textbackslash(
12252   \textbackslash{def}\textbackslash{#1name}\{#2\}
12253   \textbackslash)
12254 }

```

`\LWR@syncnotenames` Assignments to make.

```

12255 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}

```

Remove existing equation environment:

```

12256 \AtBeginDocument{
12257   \let\equation\relax
12258   \let\endequation\relax
12259   \csletcs{equation*}{relax}
12260   \csletcs{endequation*}{relax}
12261 }

```

`equation` (*env*) The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```

12262 \AtBeginDocument{
12263   \NewEnviron{equation}%
12264     {\LWR@doequation{\BODY}{equation}}%
12265     [\LWR@doendequation{equation}]
12266
12267   \LetLtxMacro\LWR@equationnormal\equation
12268   \LetLtxMacro\endLWR@equationnormal\endequation
12269 }% AtBeginDocument

```

`equation*` (*env*)

```

12270 \AtBeginDocument{
12271   \NewEnviron{equation*}%
12272     {\LWR@doequation{\BODY}{equation*}}%
12273     [\LWR@doendequation{equation*}]
12274
12275   \csletcs{LWR@equationnormalstar}{equation*}
12276   \csletcs{LWR@endequationnormalstar}{endequation*}
12277 }% AtBeginDocument

```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `TikZ` expressions.

```

12278 \AtBeginDocument{
12279   \LetLtxMacro\LWR@equationless\equation
12280   \LetLtxMacro\endLWR@equationless\endequation
12281   \csletcs{LWR@equationlessstar}{equation*}
12282   \csletcs{LWR@endequationlessstar}{endequation*}
12283 }

```

## 83.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML` for `MATHJAX` to interpret, and `svg` display math environments render their contents as `svg` images and use their contents as the `alt` tag of `HTML` output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `TikZ` pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate `TikZ` picture, which will not render in `MATHJAX` and will not make sense as an `HTML alt` tag. In this mode, `MATHJAX` is turned off, math display environments become `svg` images, even if `MATHJAX` is selected, and the `HTML alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as `TikZ` pictures are more likely to compile successfully.

`MATHJAX unsupported  
complicated alt tag`

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.

```

12284 \newcommand*{\displaymathnormal}{%
12285   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12286   \LetLtxMacro\[\LWR@openbracketnormal%
12287   \LetLtxMacro\]\LWR@closebracketnormal%
12288   \LetLtxMacro\displaymath\LWR@displaymathnormal%
12289   \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12290   \LetLtxMacro\equation\LWR@equationnormal%
12291   \LetLtxMacro\endequation\endLWR@equationnormal%
12292   \csletcs{equation*}{LWR@equationnormalstar}%
12293   \csletcs{endequation*}{LWR@endequationnormalstar}%
12294 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

12295 \newcommand*{\displaymathother}{%
12296   \boolfalse{mathjax}%
12297   \LetLtxMacro\displaymath\LWR@displaymathother%
12298   \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12299   \LetLtxMacro\[\LWR@displaymathother%
12300   \LetLtxMacro\]\endLWR@displaymathother%
12301   \LetLtxMacro\equation\LWR@equationother%
12302   \LetLtxMacro\endequation\endLWR@equationother%
12303   \csletcs{equation*}{\displaymath}%
12304   \csletcs{endequation*}{\enddisplaymath}%
12305 }

12306 \end{warppHTML}
```

**for PRINT output** 12307 \begin{warpprint}

Print-mode versions:

```

12308 \newcommand*{\displaymathnormal}{}
12309 \newcommand*{\displaymathother}{}
12310 \newcommand*{\theMathJaxsubequations}{\emptyset}
12311 \newcommand*{\theMathJaxsection}{}
12312 \newcommand*{\theMathJaxequation}{\arabic{equation}}

12313 \end{warpprint}
```

**for HTML output** 12314 \begin{warppHTML}

## 83.7 AMS Math environments

### 83.7.1 Support macros

`LWR@amsmultiline` (*bool*) True if processing a multiline environment.

To compensate for `multline`-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a `multline` environment and not an equation.

```
12315 \newbool{LWR@amsmultline}
12316 \boolfalse{LWR@amsmultline}
```

`\LWR@beginhideamsmath` Starts hiding  $\LaTeX$  math inside an HTML comment.

```
12317 \newcommand*{\LWR@beginhideamsmath}{
12318     \LWR@stoppars
12319     \LWR@origtilde\LWR@orignewline
12320     \LWR@htmlopencomment
12321
12322     \begingroup
12323     \LWR@restoreorigformatting
```

Temporarily prevent underfull `\hbox` warnings.

```
12324     \hbadness=10000\relax%

12325     \booltrue{LWR@insidemathcomment}
12326 }
```

`\LWR@endhideamsmath` Ends hiding  $\LaTeX$  math inside an HTML comment.

```
12327 \newcommand*{\LWR@endhideamsmath}{
12328     \endgroup
12329
12330     \LWR@htmlclosecomment
12331     \boolfalse{LWR@insidemathcomment}
12332     \LWR@orignewline
12333     \LWR@startpars
12334 }
```

### 83.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an  $\mathcal{AMS}$  package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the HTML `<alt>` tag the environment's contents which were automatically captured by the  $\mathcal{AMS}$  environment.

For `MATHJAX`: Each environment is synched with  $\LaTeX$ 's equation numbers, typeset with  $\LaTeX$  inside an HTML comment, then printed to HTML output for `MATHJAX` to process.

`eqnarray` (*enu*) This environment is not an  $\mathcal{AMS}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12335 \let\LWR@origeqnarray\eqnarray
12336 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12337 \newbool{LWR@numbereqnarray}
12338 \booltrue{LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
12339 \newcommand{\LWR@eqnarrayfactor}{%
```

If mathjax or FormatWP, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
12340 \ifbool{expr}{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
12341 {%
```

If MATHJAX, the environment contents (the \BODY) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
12342 \LWR@syncmathjax%
12343 \boolfalse{LWR@amsmultline}%
12344 \ifbool{LWR@numbereqnarray}%
12345 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
12346 \LWR@beginhideamsmath%
12347 \LWR@origeqnarray%
12348 \BODY%
12349 \LWR@origendeqnarray%
12350 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
12351 \LWR@addmathjax{eqnarray}{\BODY}%
12352 }%
12353 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
12354 \LWR@addmathjax{eqnarray*}{\BODY}%
12355 }% LWR@numbereqnarray
12356 }% mathjax
12357 {% not mathjax
12358 \ifbool{LWR@numbereqnarray}%
12359 {%
```

For numbered svg equations, first create a lateximage with an alt attribute containing sanitized copy of the source code:

```
12360 \begin{BlockClass}{displaymathnumbered}%
12361 \LWR@newautoidanchor%
12362 \booltrue{LWR@indisplaymathimage}%
12363 \begin{lateximage}[{\LWR@startingequationtag\textendash\LWR@equationtag}%
12364 \LWR@addmathjax{eqnarray}{\BODY}]*(\math)%
```

Support for xfakebold:



```
12365          \LWR@applyxfakebold%
```

Create the image contents using an actual eqnarray:

```
12366          \LWR@origeqnarray%
12367          \BODY%
12368          \LWR@origendeqnarray%
12369          \end{lateximage}%
12370          \end{BlockClass}%
12371      }%
12372      {% not LWR@numbreqnarray
```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```
12373          \begin{BlockClass}{displaymath}%
12374          \LWR@newautoidanchor%
12375          \booltrue{LWR@indisplaymathimage}%
12376          \begin{lateximage}[\LWR@addmathjax{eqnarray*}]{\BODY}*(math)%
```

Support for `xfakebold`:

```
12377          \LWR@applyxfakebold%

12378          \def\@eqncr{\nonumber\@seqncr}
12379          \csuse{LWR@origeqnarray}%
12380          \BODY%
12381          \nonumber\csuse{LWR@origendeqnarray}%
12382          \end{lateximage}%
12383          \end{BlockClass}%
12384      }% LWR@numbreqnarray
12385      }% not mathjax
```

Default to number equations in the future:

```
12386      \booltrue{LWR@numbreqnarray}%
```

Clear the single-use alt text:

```
12387      \gdef\LWR@ThisAltText{}%
12388      }
```

`eqnarray` itself is made with a blank line before and after to force it to be on its own line:

```
12389 \RenewEnviron{eqnarray}
12390 {%
12391
12392 \LWR@eqnarrayfactor
12393
12394 }
```

The starred version is patched to turn off the numbering:

```
12395 \csgpreto{eqnarray*}{\boolfalse{LWR@numbreqnarray}}

12396 \end{warpHTML}
```

## 84 Lateximages

### 84.1 Description

`lateximage (env)` A `lateximage` is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 81.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A L<sup>A</sup>T<sub>E</sub>X label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

`HTML alt tag` The HTML `alt` tag is set to the L<sup>A</sup>T<sub>E</sub>X source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its HTML `alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `svg math` images.

For many packages, the output is placed inside a `lateximage` with an HTML `alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`svg image font size` For the `lateximage` environment, the size of the math and text used in the `svg` image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline svg math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 84.2 Support counters and macros

**for HTML output** `\begin{warpHTML}`

`LWR@lateximagenumber` (*Ctr*) Sequence the images.

```
12398 \newcounter{LWR@lateximagenumber}
12399 \setcounter{LWR@lateximagenumber}{0}
```

`LWR@lateximagedepth` (*Ctr*) Do not create `\lateximage` inside of `\lateximage`.

```
12400 \newcounter{LWR@lateximagedepth}
12401 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12402 \edef\LWR@hashmark{\string#} % for use in \write
12403 \edef\LWR@percent{\@percentchar} % for use in \write
```

`LWR@LIpage` (*Ctr*) Used to reference the PDF page number of a lateximage to be written into `<project>-images.txt`.


```
12404 \newcounter{LWR@LIpage}
```

```
12405 \end{warpHTML}
```

## 84.3 Font size

**for HTML & PRINT** `\begin{warpall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** Do not include the leading backslash in the name.

```
12407 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline svg math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12408 \newcommand*{\LateximageFontScale}{1}
```

```
12409 \end{warpall}
```

## 84.4 Equation numbers

**for HTML output** 12410 `\begin{warpHTML}`

`LWR@startingequation (Ctr)` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```

12411 \newcounter{LWR@startingequation}
12412
12413 \@ifundefined{chapter}
12414 {
12415 \renewcommand{\theLWR@startingequation}{%
12416   \arabic{LWR@startingequation}%
12417 }
12418 }
12419 {% chapter defined
12420 \renewcommand{\theLWR@startingequation}{%
12421   \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}}%
12422   \arabic{LWR@startingequation}%
12423 }
12424 }

```

`LWR@isstartingequation (bool)` True for the first equation tag, false for later tags in the same environment.

```
12425 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12426 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12427 \newcommand*{\LWR@equationtag}{}
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```

12428 \AtBeginDocument{
12429
12430 \ifbool{mathjax}{}{% not mathjax

```

`\LWR@remembertag {<tag>}`

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```

12431 \NewDocumentCommand{\LWR@remembertag}{m}{%
12432   \ifbool{LWR@isstartingequation}%
12433   {%
12434     \global\boolfalse{LWR@isstartingequation}%
12435     \xdef\LWR@startingequationtag{#1}%
12436   }{}}%

```

```
12437 \xdef\LWR@equationtag{#1}%
12438 }%
```

```
12439 }% not mathjax
12440 }% AtBeginDocument
```

## 84.5 HTML alt tags

`\LWR@amsmathbody`  $\langle\langle envname \rangle\rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12441 \newcommand*\LWR@amsmathbody[1]
12442 {%
12443 \textbackslash\begin\}\{#1\} % extra space
12444 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\the\@envbody}}%
12445 \textbackslash\end\}\{#1\}%
12446 }
```

`\LWR@amsmathbodynumbered`  $\langle\langle envname \rangle\rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
12447 \newcommand*\LWR@amsmathbodynumbered[1]
12448 {%
12449 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
12450 {(\LWR@equationtag)}%
12451 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12452 \LWR@amsmathbody{#1} % extra space
12453 }
```

## 84.6 lateximage environment

`\LWR@lateximage@oneimageb`  $\langle\langle 1: alt text \rangle\rangle \langle\langle 2: filename \rangle\rangle \langle\langle 3: css style \rangle\rangle \langle\langle 4: aria role \rangle\rangle$  Creates the image for the `lateximage`.

```
12454 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12455 \LWR@subinlineimage{#1}{lateximage}%
12456 {%
12457 \LWR@print@embox{%
12458 \LWR@ImagesDirectory\OSPathSymbol%
12459 #2%
12460 }%
12461 }{svg}{#3}{#4}%
12462 }
```

`\LWR@lateximage@oneimage`  $\langle\langle 1: alt text \rangle\rangle \langle\langle 2: filename \rangle\rangle \langle\langle 3: css style \rangle\rangle \langle\langle 4: delimit? \rangle\rangle \langle\langle 5: aria role \rangle\rangle$

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

```
12463 \newcommand{\LWR@lateximage@oneimage}[5]{%
12464 \LWR@traceinfo{\LWR@lateximage@oneimage !#1!#2!#3!#4!#5!}%
12465 \ifdefvoid{\LWR@ThisAltText}{%
```

```

12466     \IfBooleanTF{#4}{%
12467         \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12468     }{%
12469         \LWR@lateximage@oneimageb%
12470         {\AltTextOpen#1\AltTextClose}%
12471         {#2}{#3}{#5}%
12472     }%
12473 }{%
12474     \LWR@lateximage@oneimageb%
12475     {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12476     {#2}{#3}{#5}%
12477 }%
12478 }

```

`lateximage (env)` \* [`<2: <alt> tag`] \* [`<4: add'l hashing`] [`<5: css style`] (`<6: aria role`)

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T<sub>E</sub>X expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

`*_html.aux (file)` A new label is placed into the file `*_html.aux`:

```
\newlabel{LWR@lateximage-<BaseJobname>-<number>}{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

`*-images.txt (file)` A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the PDF page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```

12479 \catcode'\$=\active%
12480
12481 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{} D()}{}%
12482 {%
12483 \LWR@traceinfo{lateximage !#1!#2!#3!#4!#5!#6!}%
12484 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12485 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%

```

Nested lateximages remain one large lateximage:

```
12486 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing lateximage, simply record one more level.  $\mathcal{A}\mathcal{M}\mathcal{S}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\text{\TeX}$  macros are used for tracking nested lateximages.

```
12487 {%
12488 %   \addtocounter{LWR@lateximagedepth}{1}%
12489   \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12490 }%
```

Otherwise, this is the outer-most lateximage:

```
12491 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
12492   \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12493   \setcounter{LWR@startingequation}{\value{equation}}%
12494   \addtocounter{LWR@startingequation}{1}%
12495   \booltrue{LWR@isstartingequation}%
12496   \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
12497   \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```
12498   \addtocounter{LWR@lateximagenumber}{1}%
12499   \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a lateximage, locally do not use `mathjax`:

```
12500   \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12501   \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull `\hbox` warnings.

```
12502   \hbadness=10000\relax%
```

Next file:

```
12503   \addtocounter{LWR@externalfilecnt}{1}%
12504   \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@Lpage` to the page number for the reference `LWRlateximage-BaseJobname-XXX`:

```
12505   \setcounterpageref{LWR@Lpage}{%
12506     LWRlateximage-BaseJobname-\arabic{LWR@lateximagenumber}%
```

```

12507 }%
12508 \LWR@traceinfo{lateximage: LWR@LImage is \arabic{LWR@LImage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

12509 \LWR@htmltag{span\LWR@indentHTML%
12510     id=\textquotedbl{}%
12511         lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12512     \textquotedbl\LWR@indentHTML
12513     class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
12514 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

12515 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12516 \IfBooleanTF{#1}% starred
12517 {% hash

```

Compute and save the hashed file name for later use:

```

12518 \ifdefvoid{\LWR@ThisAltText}{%
12519     \IfBooleanTF{#3}{%
12520         \edef\LWR@hashedname{%
12521             \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12522         }%
12523     }{%
12524         \edef\LWR@hashedname{%
12525             \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12526         }%
12527     }%
12528 }{%
12529     \edef\LWR@hashedname{%
12530         \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12531     }%
12532 }%
12533 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

12534 \immediate\write\LWR@lateximagesfile{%
12535     |\arabic{LWR@LImage}|true|\LWR@hashedname|%
12536 }%
12537 }% hash
12538 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

12539 \LWR@traceinfo{lateximage: hash false}%
12540 \immediate\write\LWR@lateximagesfile{%
12541     |\arabic{LWR@LImage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|%
12542 }%
12543 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

12544 \LWR@traceinfo{lateximage: about to create open comment}%
12545 \LWR@htmlopencomment%

```



One level deeper. At this outer-most lateximage, it is known that this is not being used inside an  $\mathcal{AMS}$  \text, since the outer-most level will never be in math mode.

```
12546 \addtocounter{LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
12547 \LWR@traceinfo{lateximage: about to create a new page}%
12548 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
12549 \LWR@traceinfo{lateximage: about to create minipage}%
12550 \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}
12551 \ifdimless{\linewidth}{6in}{%
12552   \LWR@print@minipage{\linewidth}%
12553 }{%
12554   \LWR@print@minipage{6in}%
12555 }%

12556 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12557   {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
12558   {}%
12559 \@nameuse{LWR@print@LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```
12560 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12561 \LWR@restoreorigformatting%
```

If not inside a minipage, use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
12562 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12563   {}%
12564   {%
12565     \def\@mpfn{footnote}%
12566     \def\thempfn{\thefootnote}%
12567     \LetLtxMacro\@footnotetext\LWR@footnotetext%
12568   }%
```

Create the LWRlateximage<number> label:

```
12569 \LWR@traceinfo{lateximage: about to create label}%
12570 \LWR@orig@label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12571 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
12572 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12573   \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12574 }%
```

Enable print-mode math functions:

```

12575 \LetLtxMacro$\LWR@origdollar%
12576 \catcode'\$=3% math shift
12577 \LetLtxMacro\(\LWR@origopenparen%
12578 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12579 \ifbool{LWR@indisplaymathimage}{}{% not in display math
12580 \LetLtxMacro\[\LWR@origopenbracket%
12581 \LetLtxMacro\]\LWR@origclosebracket%
12582 \let\equation\LWR@orig@equation%
12583 \let\endequation\LWR@orig@endequation%
12584 \csletcs{equation*}{LWR@orig@equation*}%
12585 \csletcs{endequation*}{LWR@orig@endequation*}%
12586 }% not in display math

```

For chemformula:

```

12587 \LetLtxMacro\LWR@newsingledollar$%
12588 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting

12589 }% end of outer-most lateximage
12590 \LWR@traceinfo{lateximage: finished start of environment}%
12591 }% end of \begin{lateximage}

```

`\endlateximage` When the lateximage environment closes:

```

12592 {% start of \end{lateximage}
12593 \LWR@traceinfo{lateximage: starting end of lateximage}%

```

Nested more than one deep?

```

12594 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12595 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%

```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to  $\mathcal{A}\mathcal{M}\mathcal{S}$  `\text` change of `\addtocounter`.

```

12596 {%
12597 \LWR@traceinfo{lateximage: unnesting}%
12598 \global\advance\c@LWR@lateximagedepth -1\relax%
12599 }%

```

If this is the outer-most lateximage:

```

12600 {% end of outer-most lateximage

```

Finish the lateximage minipage and start a new PDF page:

```

12601 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12602 \endLWR@print@minipage%
12603 \LWR@maybe@orignewpage%

```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```

12604 \LWR@print@vspace*{.5\baselineskip}%

```

```
12605 \LWR@htmlclosecomment%
12606 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12607 \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
12608 \IfBooleanTF{#1}% starred
12609 {% hash
12610 \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12611 }% hash
12612 {% no hash
12613 \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12614 }% no hash
```

Be sure that are doing a paragraph:

```
12615 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdf<sub>totext</sub>* comment and also the link to the .svg image:

```
12616 \LWR@htmltag{/span}%
12617 \ifbool{HTMLDebugComments}{%
12618 \LWR@htmlcomment{End of lateximage}%
12619 }{}
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$  `\text`, so regular `\addtocounter` may be used here.

```
12620 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12621 \gdef\LWR@ThisAltText{%
12622 }% end of outer-most lateximage
12623 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12624 \LWR@traceinfo{lateximage: done}%
12625 }%
12626 \catcode'\$=3% math shift
12627 \end{warpHTML}
```

**for PRINT output** 12628 \begin{warpprint}

lateximage (*env.*) \* [`<alt> tag`] \* [`<add'l hashing>`] [`<css style>`]

Ignored in print mode.

```
12629 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12630 {}{}
```

```
12631 \end{warpprint}
```

## 85 center, flushleft, flushright

**for HTML output** 12632 \begin{warpHTML}

`center` (*env.*) Replace center functionality with css tags. In a `<span>`, these macros are nullified, but extra % are used to remove spurious spaces here as well.

```

12633 \newenvironment*{LWR@HTML@center}
12634 {%
12635     \LWR@forcenewpage%
12636     \ifbool{FormatWP}%
12637         {\BlockClass[\LWR@print@mbx{text-align:center}]{center}}%
12638         {\BlockClass{center}}}%
12639 }
12640 {\endBlockClass}
12641
12642 \LWR@formattedenv{center}

```

`flushright` (*env.*)

```

12643 \newenvironment*{LWR@HTML@flushright}
12644 {%
12645     \LWR@forcenewpage%
12646     \ifbool{FormatWP}%
12647         {\BlockClass[\LWR@print@mbx{text-align:right}]{flushright}}%
12648         {\BlockClass{flushright}}}%
12649 }
12650 {\endBlockClass}
12651
12652 \LWR@formattedenv{flushright}

```

`flushleft` (*env.*)

```

12653 \newenvironment*{LWR@HTML@flushleft}
12654 {%
12655     \LWR@forcenewpage%
12656     \ifbool{FormatWP}%
12657         {\BlockClass[\LWR@print@mbx{text-align:left}]{flushleft}}%
12658         {\BlockClass{flushleft}}}%
12659 }
12660 {\endBlockClass}
12661
12662 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

`\centering`

```

12663 \newcommand*{\LWR@HTML@centering}{%
12664     \ifbool{HTMLDebugComments}{%
12665         \LWR@htmlcomment{centering}%
12666     }{}%
12667 }
12668 \LWR@formatted{centering}

```

`\raggedleft`

```

12669 \newcommand*{\LWR@HTML@raggedleft}{%

```

```

12670   \ifbool{HTMLDebugComments}{%
12671     \LWR@htmlcomment{raggedleft}%
12672   }{%
12673 }
12674 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12675 \newcommand*\LWR@HTML@raggedright{%
12676   \ifbool{HTMLDebugComments}{%
12677     \LWR@htmlcomment{raggedright}%
12678   }{%
12679 }
12680 \LWR@formatted{raggedright}

```

`\leftline {<text>}`

```

12681 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

```

`\centerline {<text>}`

```

12682 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

```

`\rightline {<text>}`

```

12683 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

```

```

12684 \end{warpHTML}

```

## 86 Preloaded packages

**for HTML output** 12685 `\begin{warpHTML}`

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

`\LWR@PreloadedPackage {<packagename>}`

```

12686 \newcommand*\LWR@PreloadedPackage}[1]{%
12687   \IfPackageLoadedTF{#1}%
12688   {%
12689     \AtBeginDocument{
12690       \LWR@origRequirePackage{lwarp-#1}%
12691     }
12692   }%
12693   }%
12694 }

```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```

12695 \LWR@PreloadedPackage{inputtrc}

```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12696 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12697 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
12698 \LWR@PreloadedPackage{graphics}
```

```
12699 \LWR@PreloadedPackage{graphicx}
```

`tagpdf-base` may have been preloaded by `pdfmanagement-testphase`

```
12700 \LWR@PreloadedPackage{tagpdf-base}
```

`scalegnt` may have been preloaded by `babel`

```
12701 \LWR@PreloadedPackage{scalegnt}
```

`fontaxes` must be preloaded so that `lwarp` may patch it for `HTML`.

```
12702 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before `lwarp`:

```
12703 \LWR@PreloadedPackage{cmbright}
```

```
12704 \LWR@PreloadedPackage{fourier}
```

```
12705 \LWR@PreloadedPackage{kpfonts}
```

```
12706 \LWR@PreloadedPackage{kpfonts-otf}
```

```
12707 \LWR@PreloadedPackage{libertinust1math}
```

```
12708 \LWR@PreloadedPackage{pxfonts}
```

```
12709 \LWR@PreloadedPackage{txfonts}
```

```
12710 \LWR@PreloadedPackage{txgreek}
```

```
12711 \LWR@PreloadedPackage{newpxmath}
```

```
12712 \LWR@PreloadedPackage{newtxmath}
```

```
12713 \LWR@PreloadedPackage{newtxsf}
```

```
12714 \LWR@PreloadedPackage{mathalpha}
```

```
12715 \LWR@PreloadedPackage{unicode-math}
```

```
12716 \LWR@PreloadedPackage{realscripts}
```

`nfssect-cfr` may be preloaded by `cfm-lm` or related font packages.

```
12717 \LWR@PreloadedPackage{nfssect-cfr}
```

`ulem` may be preloaded by `ctex`, `ctextart`, and related classes.

```
12718 \LWR@PreloadedPackage{ulem}
```

```
12719 \LWR@PreloadedPackage{xetexko}
```

`geometry` is preloaded by `lwarp`, and perhaps by various classes.

```
12720 \LWR@PreloadedPackage{geometry}
```

`plext` is preloaded by some CJK classes.

```
12721 \LWR@PreloadedPackage{plext}
```

`stfloats` is preloaded by `ltj*` classes.

```
12722 \LWR@PreloadedPackage{stfloats}
```

`ltxtext` is preloaded by `ltj*` classes.

```
12723 \LWR@PreloadedPackage{ltxtext}
```

`luatexko` must be loaded before `lwarp`.

```
12724 \LWR@PreloadedPackage{luatexko}
```

```
12725 \end{warpHTML}
```

## 87 siunitx

`siunitx` (*Pkg*)

A few HTML unit equivalents are defined here.

`siunitx` is well supported by `lwarp`.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for `siunitx v3`.

Negative values are not automatically colored.

**tabular** Tabular `S` and `s` columns are rendered as simple `c` columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

**drop-exponent**

**table-auto-round** `table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with `svg display`:** The original `siunitx` code is used while generating the `svg` image.

**For HTML text mode:** `lwarp` uses `siunitx` code patched for `HTML`, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.


**Custom units** siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

 **v3 only!** Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```


It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```


**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

 **MathJax**

### Document modifications required for MATHJAX

 `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.


 **complex numbers**

- Complex numbers are displayed as entered, ignoring `output-complex-root`.


**custom units**

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

 **unit spacing**

- Units work better using `~` between units instead of using periods.


 `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centimeter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

 **Missing \$ inserted**

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.



Also see **MATHJAX option**, section 8.7.5.

**for HTML output** 12726 `\begin{warpHTML}`

Options for `siunitx`:

```

12727 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12728 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12729 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLUnicode{2032}}
12730 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLUnicode{2033}}
12731 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLUnicode{210F}}}}
12732
12733 \appto\LWR@restoreorigformatting{%
12734 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12735 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12736 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%
12737 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^\prime\prime}}}%
12738 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12739 }

12740 \end{warpHTML}

```

**for PRINT output:** The print version of `\HTMLDeclareSIUnit`.

```

12741 \begin{warpprint}
12742 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}
12743 \end{warpprint}

```

## 88 Graphics print-mode modifications

### 88.1 General limitations

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

**file extensions**

**⚠ case sensitive**

**`\includegraphics` file formats** For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility *pdftocairo*:  
PDF to SVG

Enter ⇒ **pdftocairo -svg filename.pdf**

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use *lwarpmk*:

Enter ⇒ **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package *epstopdf*, use  
`epstopdf` (*Prog*)  
epstopdf package

Enter ⇒ **lwarpmk pdftosvg \*.PDF**

to convert to SVG images.

`DVI LATEX` When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf \*.eps** (or a list of filenames)

Enter ⇒ **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

`PNG and JPG` For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

`GIF` GIF files may be used for HTML, but another format must also be provided for print output.

`file extension priorities` If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

`duplicate files`

⚠ image not displayed

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ graphics vs. graphicx

⚠ viewport

If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by *lwarp* — the entire image will be shown.

`units` For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

`options` `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

`HTML class` With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval com-

bination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

**⚠ scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

**\rotatebox** `\rotatebox` accepts the optional origin key.

**⚠ browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 88.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new class key:

```
12744 \begin{warpprint}
12745 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 460 for the HTML version.

```
12746 \AtBeginDocument{
12747 \IfPackageLoadedTF{overpic}{
12748 \newcommand*\overpicfontsize}{12}
12749 \newcommand*\overpicfontskip}{14}
12750 }{}
12751 }
12752 \end{warpprint}

```

## 89 xcolor boxes

`xcolor (Pkg)` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode versions are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warpall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT** 12753 `\begin{warpall}`

After xparse may have been loaded ...

```
12754 \AtBeginDocument{
```

... and *only* if xcolor was loaded:

```
12755 \IfPackageLoadedTF{xcolor}{
12756 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12757 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12758 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [framemodel] {framecolor} [boxmodel] {boxcolor} {text}
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
12759 \newsavebox{\LWR@colorminipagebox}
12760
12761 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12762   \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12763   \begin{lrbox}{\LWR@colorminipagebox}%
12764   #5%
12765   \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LR box is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12766   \ifstrequal{#4}{none}%
12767   {% #4 none
12768     \LWR@traceinfo{background is none}%
12769     {% scope the \colorlet
12770       \colorlet{\LWR@currentcolor}{.}%
12771       \color{#2}%
12772       \fbox{%
12773         \color{\LWR@currentcolor}%
12774         \usebox{\LWR@colorminipagebox}%
12775       }% fbox
12776     }% colorlet
12777   }% #4 none
12778   {% #4 not none
12779     \LWR@traceinfo{background not none}%
```

```

12780 \IfValueTF{#1}%
12781 {%
12782     \IfValueTF{#3}%
12783     {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12784     {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12785     }%
12786     {% no value #1
12787     \IfValueTF{#3}%
12788     {\LWR@orig@print@fcolorbox{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12789     {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12790     }% no value #1
12791     }% #4 not none
12792     \LWR@traceinfo{LWR@print@fcolorbox done}%
12793 }

```

```
12794 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

`\fcolorboxBlock` [*⟨framemodel⟩*] {*⟨framecolor⟩*} [*⟨boxmodel⟩*] {*⟨boxcolor⟩*} {*⟨text⟩*}

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```
12795 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}
```

```
12796 \newrobustcmd*{\fcolorboxBlock}{\LWR@print@fcolorboxBlock}
```

`fcolorminipage` (*env.*) [*⟨1:framemodel⟩*] {*⟨2:framecolor⟩*} [*⟨3:boxmodel⟩*] {*⟨4:boxcolor⟩*} [*⟨5:align⟩*] [*⟨6:height⟩*] [*⟨7:inner-align⟩*] {*⟨8:width⟩*}

In print mode, becomes a `\fcolorbox` containing a minipage:

```

12797 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{ } o m}
12798 {%
12799     \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12800 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

12801 \IfValueTF{#7}%
12802 {\begin{minipage}[#5][#6][#7]{#8}}%
12803 {\begin{minipage}[#5][#6][#5]{#8}}%
12804 }%
12805 {%
12806 \end{minipage}%
12807 \end{lrbox}%
12808 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12809 \ifstrequal{#4}{none}%
12810 {% #4 none

```

```

12811     {% scope the \colorlet
12812         \colorlet{LWR@currentcolor}{.}%
12813         \color{#2}%
12814         \fbox{%
12815             \color{LWR@currentcolor}%
12816             \usebox{\LWR@colorminipagebox}%
12817         }% fbox
12818     }% colorlet
12819 }% #4 none
12820 {% #4 not none
12821     \IfValueTF{#1}%
12822     {%
12823         \IfValueTF{#3}%
12824         {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12825         {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12826     }%
12827     {% no value #1
12828         \IfValueTF{#3}%
12829         {\LWR@orig@print@fcolorbox{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12830         {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12831     }% no value #1
12832 }% #4 not none
12833 \LWR@traceinfo{*** finished end fcolorminipage}%
12834 }

```

xcolor is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be \LW@formatted.

```

12835 \LWR@formatted{colorbox}
12836 \LWR@formatted{colorboxBlock}
12837 \LWR@formatted{fcolorbox}
12838 \LWR@formatted{fcolorboxBlock}
12839 \LWR@formattedenv{fcolorminipage}

12840 \LWR@traceinfo{xcolor patches done}
12841 }{% xcolor loaded
12842 }% AtBeginDocument

12843 \end{warppall}

```

## 90 chemmacros environments

\makepolymerdelims and redox reactions must be enclosed in a lateximage during HTML output. These environments are provided here in print mode, and in the chemmacros code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a lateximage with an appropriate alt tag.

**for PRINT output** 12844 \begin{warpprint}

```

12845 \AtBeginDocument{
12846 \IfPackageLoadedTF{chemmacros}{

```

Env polymerdelims

```

12847 \DeclareDocumentEnvironment{polymerdelims}{}
12848     {}{}

```

Env redoxreaction

`{\space above} {\space below}`

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 193.5.

```
12849 \DeclareDocumentEnvironment{redoxreaction}{m m}
12850   {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

12851 }{\}% chemmacros
12852 }% AtBeginDocument

12853 \end{warpprint}
```

## 91 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

```
for HTML output12854 \begin{warppHTML}
12855
12856 \AtEndPreamble{
12857   \RequirePackage{cleveref}
12858 }
12859
12860 \end{warppHTML}
```

## 92 Preexisting label and reference definitions

Remember and patch some label-related defintions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

```
for HTML output12861 \begin{warppHTML}
12862
12863 \LetLtxMacro\LWR@orig@label\label% includes memoir, before cleveref
12864 \LetLtxMacro\label\LWR@new@label
12865
12866 \LetLtxMacro\LWR@orig@pageref\pageref
12867 \LetLtxMacro\pageref\LWR@new@pageref
12868
12869 \end{warppHTML}
```

## 93 picture environment

`picture (env)` The `picture` environment is enclosed inside a `\lateximage`.

**for HTML output**`\begin{warphTML}`

`picture (env)`

```
12871 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
```


```
12872
```

```
12873 \AfterEndEnvironment{picture}{\end{lateximage}}
```

```
12874 \end{warphTML}
```


## 94 Minipages and Boxes


A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

**placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.


**side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

 **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

**if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

**full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.


 **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and


```
\UseMinipageWidths
```

```
\IgnoreMinipageWidths
```



`\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwrap` to ignore the specified widths.

 **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

 **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output** 12875 `\begin{warpHTML}`

## 94.1 Computed lengths

`\LWR@minipagewidth` (*Len*) Used to convert the width into printable units.

```
12876 \newlength{\LWR@minipagewidth}
```

`\LWR@minipageheight` (*Len*) Used to convert the height into printable units.

```
12877 \newlength{\LWR@minipageheight}
```

## 94.2 Virtual page size

`LWR@virtualpagedepth` (*Ctr*) Used to only reset the line width at the outermost minipage.

```
12878 \newcounter{LWR@virtualpagedepth}
12879 \setcounter{LWR@virtualpagedepth}{0}
```

`LWR@setvirtualpage` (*env.*) \* [`<columns>`]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
12880 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
12881   \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12882     \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12883     \setlength{\linewidth}{6in/#2}%
12884     \setlength{\textwidth}{6in}%
12885     \setlength{\textheight}{9in}%
12886   }{%
12887     \addtocounter{LWR@virtualpagedepth}{1}%
12888   }
12889 {\addtocounter{LWR@virtualpagedepth}{-1}}
```

## 94.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 94.4.

## 94.4 Minipage handling

`LWR@minipagefullwidth` (*bool*) Should the next minipage have no HTML width?

```
12890 \newbool{LWR@minipagefullwidth}
12891 \boolfalse{LWR@minipagefullwidth}
```

`LWR@forceminipagefullwidth` (*bool*) Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```
12892 \newbool{LWR@forceminipagefullwidth}
12893 \boolfalse{LWR@forceminipagefullwidth}
```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output** 12894 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```
12895 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```
12896 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12897 \end{warppHTML}
```

**for PRINT output** 12898 \begin{warpprint}  
12899 \newcommand\*{\minipagefullwidth}{}  
12900 \newcommand\*{\UseMinipageWidths}{}  
12901 \newcommand\*{\IgnoreMinipageWidths}{}  
12902 \end{warpprint}

**for HTML output** 12903 \begin{warppHTML}

`LWR@minipagethispar` (*bool*) Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
12904 \newbool{LWR@minipagethispar}
12905 \boolfalse{LWR@minipagethispar}
```

`LWR@minipage@depth` (*Ctr*) Used to track whether to change footnote styles in a `lateximage` inside an HTML minipage.

```
12906 \newcounter{LWR@minipage@depth}
12907 \setcounter{LWR@minipage@depth}{0}
```

`LWR@mpfootnote@store` (*Ctr*) Used to maintain minipage footnote number while nesting inside a `lateximage`.

```
12908 \newcounter{LWR@mpfootnote@store}
```

`minipage` (*env.*) [*<vert position>*] [*<height>*] [*<inner vert position>*] [*<width>*]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\linewidth`, `\textwidth`, or `\textheight`, these are scaled proportionally to a 6×9 inch text area.

```
12909 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12910 {%
12911 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12912 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
12913 \setlength{LWR@minipagewidth}{#4}%
12914 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12915   \addtolength{LWR@minipagewidth}{3em}% room for frames
12916 }{%
12917 \LWR@traceinfo{computed width is \LWR@printlength{LWR@minipagewidth}}%
```

Compute height:

```
12918 \setlength{LWR@minipageheight}{\textheight}% default unless specified
12919 \ifblank{#2}{\setlength{LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12920 \ifbool{FormatWP}{\newline}{}%
12921 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
12922 \ifbool{FormatWP}{%
12923
12924 \addtocounter{LWR@thisautoidWP}{1}%
12925 \LWR@htmltag{%
12926   div id=\textquotedbl%
12927     \LWR@print@mbbox{autoidWP-\arabic{LWR@thisautoidWP}}%
12928   \textquotedbl\ % space
12929   class=\textquotedbl{}wminipage\textquotedbl%
12930 }%
12931
12932 }{%
```

Create the <div> tag with optional alignment style:

```
12933 \LWR@traceinfo{minipage: creating div class}%
12934 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
12935 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{%
12936 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{%
12937 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{%
12938 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{%
12939 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{%
```

```
12940 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbbox{justify-content:flex-end} ; }{}%
12941 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbbox{justify-content:space-between} ; }{}%
```

Print the width and optional height styles:

```
12942 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12943 \ifbool{\LWR@minipagefullwidth}%
12944 {\global\boolfalse{\LWR@minipagefullwidth}}%
12945 {%
12946   \ifbool{\LWR@forceminipagefullwidth}%
12947     {}%
12948   {%
12949     \ifdimequal{#4}{\linewidth}%
12950       {}%
12951       {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12952     }%
12953 }%
12954 \LWR@traceinfo{minipage: about to print the height}%
12955 \ifblank{#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
12956 \textquotedbl%
12957 }%
```

Finish with an empty line to start the contents on a new line.

```
12958
12959 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
12960 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{}%
12961   \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12962 }{}%
12963 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12964 \LWR@print@raggedright%

12965   \LWR@newautopagelabel{page}%
```

Set minipage footnotes:

```
12966 \def\@mpfn{mpfootnote}%
12967 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12968 \let\@footnotetext\@mpfootnotetext%
```

Track depth for `lateximage` footnote type:

```
12969 \addtocounter{\LWR@minipage@depth}{1}%
```

Resume paragraph tag handling for the contents of the minipage:

```

12970 \LWR@startpars%
12971 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12972
12973 === begin minipage ===
12974
12975 }{%
12976 \LWR@traceinfo{minipage: finished starting the minipage}%
12977 }% finished \minipage
12978 {% \endminipage

```

Print pending minipage footnotes:

```

12979 \LWR@printpendingmpfootnotes%

```

End the environment with closing tag:

```

12980 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12981
12982 === end minipage ===
12983
12984 }{%
12985 \LWR@stoppars%
12986
12987 \ifbool{FormatWP}{%
12988
12989 \LWR@htmlElementend{div}%
12990
12991 }{%

```

Wrapup:

```

12992 \addtocounter{LWR@minipage@depth}{-1}%
12993 \LWR@htmldivclassend{minipage}%
12994
12995 \end{LWR@setvirtualpage}%
12996 \LWR@startpars%
12997 \ifbool{FormatWP}{\newline}{%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12998 \global\booltrue{LWR@minipagethispar}%
12999 \LWR@traceinfo{LWR@minipage: done}%
13000 }
13001
13002 \NewDocumentEnvironment{LWR@HTML@minipage}{0{t} 0{} 0{t} m}
13003   {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
13004   {\endLWR@HTML@sub@minipage}
13005
13006 \LWR@formattedenv{minipage}

```

## 94.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

13007 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
13008 {
13009 \LWR@traceinfo{parbox of width #4}%
13010 \begin{minipage}[#1][#2][#3]{#4}%
13011 #5
13012 \end{minipage}%
13013 }
13014
13015 \LWR@formatted{parbox}

```

`\mbox {<text>}` Nullified for HTML.

```

13016 \newcommand*{\LWR@HTML@mbox}[1]{#1}
13017
13018 \LWR@formatted{mbox}

```

`\LWR@makebox@paren {<width>}, {<height>}`

Adds to the style in `\LWR@temptwo`.

```

13019 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
13020 \IfValueTF{#2}{%
13021   \setlength{\LWR@tempwidth}{#1\unitlength}%
13022   \setlength{\LWR@tempheight}{#2\unitlength}%
13023   \appto{\LWR@temptwo}{%
13024     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
13025     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
13026   }%
13027 }{%
13028   \PackageError{lwarp}%
13029     {(width,height) is missing a comma ',' character}%
13030     {\protect\makebox\space and \protect\framebox\space accept
13031       a size in the format (width,height).}%
13032 }%
13033 }

```

`\LWR@makebox@align {<alignment character>}`

Adds to the style in `\LWR@temptwo`.

```

13034 \newcommand*{\LWR@makebox@align}[1]{%
13035   \def\LWR@align{center}%
13036   \ifstrequal{#1}{l}{\def\LWR@align{left}}{%
13037     \ifstrequal{#1}{r}{\def\LWR@align{right}}{%
13038       \ifstrequal{#1}{s}{\def\LWR@align{justify}}{%
13039         \appto{\LWR@temptwo}{%
13040           \LWR@print@mbox{text-align:\LWR@align} ; %
13041         }%
13042 }

```

`\makebox (<width,height>) [<width>] [<pos>] {<text>}`

```

13043 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

13044 \begin{LWR@setvirtualpage}%
13045 \def\LWR@temptwo{%
13046 \IfValueTF{#1}%
13047 {% (width,height) ..
13048 \LWR@makebox@paren #1%
13049 \IfValueT{#2}%
13050 {% (width,height) [posn]
13051 \LWR@makebox@align{#2}%
13052 }%
13053 }%
13054 {% [width]
13055 \IfValueT{#2}% [width]
13056 {%
13057 \setlength{\LWR@tempwidth}{#2}%
13058 \ifdimgreater{\LWR@tempwidth}{0pt}{%
13059 \appto{\LWR@temptwo}{%
13060 width:\LWR@printlength{\LWR@tempwidth} ; % space
13061 }%
13062 }{}}%
13063 }%
13064 }%
13065 \IfValueT{#3}%
13066 {% [width] [posn]
13067 \LWR@makebox@align{#3}%
13068 }%
13069 \InlineClass[%
13070 \LWR@print@embox{display:inline-block} ; %
13071 \LWR@temptwo%
13072 ]%
13073 {makebox}%
13074 {#4}%
13075 \end{LWR@setvirtualpage}%
13076 }
13077 \LWR@formatted{makebox}

```

`\framebox (<width,height>) [<width>] [<pos>] {<text>}`

```

13078 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
13079 \fbox{makebox{#1}[#2][#3]{#4}}%
13080 }
13081
13082 \LWR@formatted{framebox}

```

`\LWR@forceminwidth {<length>}`

Sets `\LWR@atleastonept` to be at least 1pt.

```

13083 \newlength{\LWR@atleastonept}
13084
13085 \newcommand*{\LWR@forceminwidth}[1]{%
13086 \setlength{\LWR@atleastonept}{#1}%
13087 \ifthenelse{%
13088 \lengthtest{\LWR@atleastonept>0pt}\AND%
13089 \lengthtest{\LWR@atleastonept<1pt}%
13090 }%
13091 {\setlength{\LWR@atleastonept}{1pt}}%
13092 }%

```

13093 }

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
13094 \newcommand*\LWR@fboxstyle{%
13095 \LWR@findcurrenttextcolor%
13096 \LWR@traceinfo{\LWR@fboxstyle B}%
13097 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13098 padding:\LWR@printlength{\fboxsep} ; %
13099 color:\LWR@origpound\LWR@tempcolor%
13100 }
```

`\fbox`  $\langle text \rangle$

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```
13101 \newcommand{\LWR@HTML@fbox}[1]{%
13102   \LWR@traceinfo{HTML fbox}%
13103   \LWR@forceminwidth{\fboxrule}%
13104   \LWR@traceinfo{HTML fbox B}%
13105   \InlineClass[%
13106     \LWR@print@fbox{display:inline-block} ; %
13107     \LWR@fboxstyle%
13108   ]{fbox}{#1}%
13109   \LWR@traceinfo{HTML fbox: done}%
13110 }
```

`xcolor` lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
13111 \AtBeginDocument{\LWR@formatted{fbox}}
```

`\fboxBlock`  $\langle text \rangle$  Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

```
for HTML & PRINT13112 \end{warpHTML}
13113
13114 \begin{warpall}
13115 \let\fboxBlock\fbox
13116 \end{warpall}
13117
13118 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
13119 \newcommand{\LWR@HTML@fboxBlock}[1]{%
13120 \LWR@forceminwidth{\fboxrule}%
13121 \LWR@stoppars%
13122 \begin{BlockClass}[\LWR@fboxstyle]{fboxBlock}
13123 #1
13124 \end{BlockClass}
13125 \LWR@startpars%
```



```

13126 }
13127
13128 \LWR@formatted{fboxBlock}
13129
13130 \end{warpHTML}

```

`fminipage (env.)` [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```

13131 \begin{warpall}
13132
13133 \newsavebox{\LWR@fminipagebox}
13134
13135 \NewDocumentEnvironment{fminipage}{0{t} o 0{t} m}
13136 {%

```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```

13137 \IfValueTF{#3}%
13138 {\def\LWR@thisalign{#3}}
13139 {\def\LWR@thisalign{#1}}%

```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```

13140 \IfValueTF{#2}%
13141 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
13142 {\minipage[#1][#4+2\fboxsep+2\fboxrule]}%

```

Capture the contents of the environment:

```

13143 \begin{lrbox}{\LWR@fminipagebox}%

```

Nest the contents inside an inner minipage of the desired size:

```

13144 \IfValueTF{#2}%
13145 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13146 {\minipage[#1]{#4}}%
13147 }
13148 {%

```

Close the inner minipage and the LR box with the contents:

```

13149 \endminipage%
13150 \end{lrbox}%

```

Create a frame around the contents of the environment:

```

13151 \fbox{\usebox{\LWR@fminipagebox}}%

```

The entire thing is placed inside the outer minipage:

```

13152 \endminipage%
13153 }
13154 \end{warpall}

```

HTML version:

**for HTML output**

```

13155 \begin{warpHTML}
13156
13157 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
13158 {%
13159 \LWR@traceinfo{fminipage #1 #2 #3 #4}%

```

Locally change to the virtual page size before processing the requested sizes:

```

13160 \begin{LWR@setvirtualpage}*%
13161 \setlength{\LWR@tempwidth}{#4}%
13162 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%

```

Use a rule of at least one pixel in width:

```

13163 \LWR@forceminwidth{\fboxrule}%

13164 \LWR@stoppars%

13165 \begin{BlockClass}[%
13166 \LWR@fboxstyle ; %
13167 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
13168 \ifbool{LWR@minipagefullwidth}%
13169 {\global\boolfalse{LWR@minipagefullwidth}}%
13170 {%
13171   \ifbool{LWR@forceminipagefullwidth}%
13172     {}%
13173     {%
13174       \ifdimequal{\LWR@tempwidth}{\linewidth}%
13175         {}%
13176         {width:\LWR@printlength{\LWR@tempwidth} ; }%
13177     }%
13178 }%
13179 ]{fminipage}%
13180 }
13181 {%
13182 \end{BlockClass}%
13183 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13184 \global\booltrue{LWR@minipagethispar}%
13185 \LWR@traceinfo{fminipage done}%
13186 }
13187
13188 \LWR@formattedenv{fminipage}

```

`\raisebox <{<raiselen>} [<height>] [<depth>] <{<text>}`

```

13189 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13190 #4%

```

```

13191 }
13192
13193 \LWR@formatted{raisebox}

13194 \end{warpHTML}

```

## 95 Direct formatting

⚠ **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

**verbatim** The various verbatim-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 52.10.

**for HTML & PRINT** 13195 `\begin{warpall}`

`FixSmallCaps` (*bool*) User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```

13196 \newbool{FixSmallCaps}
13197 \boolfalse{FixSmallCaps}

13198 \end{warpall}

```

**for HTML output** 13199 `\begin{warpHTML}`

`\emph` `{\textit}`

```

13200 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13201   {%
13202     \LWR@HTML@itshape%
13203     \LWR@htmlspan{em}{#1}%
13204   }%
13205 }
13206
13207 \LWR@formatted{emph}

```

`\textmd` `{\textit}`

```

13208 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13209   {%
13210     \LWR@HTML@mdseries%
13211     \InlineClass(font-weight:normal){textmd}{#1}%
13212   }%

```

```

13213 }
13214
13215 \LWR@formatted{textmd}

```

`\textbf`  $\langle text \rangle$

```

13216 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13217   {%
13218     \LWR@HTML@bfseries%
13219     \LWR@htmlspan{b}{#1}%
13220   }%
13221 }
13222
13223 \LWR@formatted{textbf}

```

`\texteb`  $\langle text \rangle$  From `nfssect-cfr`.

```

13224 \IfPackageLoadedTF{nfssect-cfr}{
13225 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13226   {%
13227     \LWR@HTML@ebweight%
13228     \InlineClass{texteb}{#1}%
13229   }%
13230 }
13231
13232 \LWR@formatted{texteb}
13233 }{% if not loaded
13234   \providerobustcmd{\texteb}[1]{}
13235 }

```

`\textlg`  $\langle text \rangle$  From `nfssect-cfr`.

```

13236 \IfPackageLoadedTF{nfssect-cfr}{
13237 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13238   {%
13239     \LWR@HTML@lgweight%
13240     \InlineClass{textlg}{#1}%
13241   }%
13242 }
13243
13244 \LWR@formatted{textlg}
13245 }{% if not loaded
13246   \providerobustcmd{\textlg}[1]{}
13247 }

```

`\textrm`  $\langle text \rangle$

```

13248 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13249   {%
13250     \LWR@HTML@rmfamily%
13251     \InlineClass(font-family:serif){textrm}{#1}%
13252   }%
13253 }
13254
13255 \LWR@formatted{textrm}

```

`\textsf {<text>}`

```
13256 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13257   {%
13258     \LWR@HTML@sffamily%
13259     \InlineClass(font-family:sans){textsf}{#1}%
13260   }%
13261 }
13262
13263 \LWR@formatted{textsf}
```

`\texttt {<text>}`

```
13264 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13265   {%
13266     \LWR@HTML@ttfamily%
13267     \LWR@htmlspan{kbd}{#1}%
13268   }%
13269 }
13270
13271 \LWR@formatted{texttt}
```

`\textup {<text>}`

```
13272 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13273   {%
13274     \LWR@HTML@upshape%
13275     \InlineClass(font-style:normal){textup}{#1}%
13276   }%
13277 }
13278
13279 \LWR@formatted{textup}
```

`\textit {<text>}`

```
13280 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13281   {%
13282     \LWR@HTML@itshape%
13283     \LWR@htmlspan{i}{#1}%
13284   }%
13285 }
13286
13287 \LWR@formatted{textit}
```

`\textsc {<text>}`

```
13288 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13289   {%
13290     \LWR@HTML@scshape%
13291     \InlineClass{textsc}{#1}%
13292   }%
13293 }
13294
13295 \LWR@formatted{textsc}
```

`\textulc {<text>}`      From fontaxes.

```

13296 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13297   {%
13298     \LWR@HTML@ulcshape%
13299     \InlineClass{textulc}{#1}%
13300   }%
13301 }
13302
13303 \LWR@formatted{textulc}

```

`\textsi` {*⟨text⟩*}

```

13304 \@ifundefined{textsi}{
13305   \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
13306 }{}
13307
13308 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13309   {%
13310     \LWR@HTML@sishape%
13311     \textsc{\textit{#1}}%
13312     \InlineClass(
13313       font-style: italic;
13314       font-variant: small-caps ;
13315       font-variant-numeric: oldstyle-nums ;
13316     ){textsi}{#1}%
13317   }%
13318 }
13319
13320 \LWR@formatted{textsi}

```

`\textsl` {*⟨text⟩*}

```

13321 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13322   {%
13323     \slshape%
13324     \InlineClass(font-style:oblique){textsl}{#1}%
13325   }%
13326 }
13327
13328 \LWR@formatted{textsl}

```

`\textssc` {*⟨text⟩*}

```

13329 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13330 \LWR@formatted{textssc}

```

`\textnormal` {*⟨text⟩*}

```

13331 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13332   \LWR@HTML@mdseries%
13333   \LWR@HTML@rmfamily%
13334   \LWR@HTML@upshape%
13335   \LWR@HTML@ulcshape%
13336   \InlineClass(%
13337     font-weight: normal;
13338     font-family: serif;
13339     font-style: normal;
13340     font-variant: normal;

```

```

13341         font-variant-numeric: normal ;
13342     ){textnormal}{#1}%
13343 }
13344
13345 \LWR@formatted{textnormal}

13346 \FilenameNullify{%
13347     \LetLtxMacro\emph\@firstofone%
13348     \LetLtxMacro\textmd\@firstofone%
13349     \LetLtxMacro\textbf\@firstofone%
13350     \LetLtxMacro\texteb\@firstofone%
13351     \LetLtxMacro\textlg\@firstofone%
13352     \LetLtxMacro\textrm\@firstofone%
13353     \LetLtxMacro\textsf\@firstofone%
13354     \LetLtxMacro\texttt\@firstofone%
13355     \LetLtxMacro\textup\@firstofone%
13356     \LetLtxMacro\textit\@firstofone%
13357     \LetLtxMacro\textsc\@firstofone%
13358     \LetLtxMacro\textulc\@firstofone%
13359     \LetLtxMacro\textsi\@firstofone%
13360     \LetLtxMacro\textsl\@firstofone%
13361     \LetLtxMacro\textssc\@firstofone%
13362     \LetLtxMacro\textnormal\@firstofone%
13363 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

13364 \newcommand*{\LWR@family}{rm}
13365 \newcommand*{\LWR@series}{md}
13366 \newcommand*{\LWR@shape}{up}
13367 \newcommand*{\LWR@shapecaps}{ulc}

```

`\LWR@textcurrentfont`  $\langle text \rangle$

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13368 \newcounter{LWR@textcurrentfontdepth}
13369 \setcounter{LWR@textcurrentfontdepth}{0}
13370
13371 \newcommand*{\LWR@textcurrentfont}[1]{%
13372     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13373     {%
13374         \addtocounter{LWR@textcurrentfontdepth}{1}%
13375         #1%
13376         \addtocounter{LWR@textcurrentfontdepth}{-1}%
13377     }%
13378     {%
13379         \addtocounter{LWR@textcurrentfontdepth}{1}%
13380         \ifboolexpr{%
13381             test {\ifdefstring{\LWR@family}{rm}} and
13382             test {\ifdefstring{\LWR@series}{md}} and
13383             test {\ifdefstring{\LWR@shape}{up}} and
13384             test {\ifdefstring{\LWR@shapecaps}{ulc}}
13385         }%
13386         {\InlineClass{textnormal}{#1}}%
13387         {%
13388             \InlineClass{%

```

```

13389             text\LWR@family\LWR@origtilde{}%
13390             text\LWR@series\LWR@origtilde{}%
13391             text\LWR@shape\LWR@origtilde{}%
13392             text\LWR@shapecaps%
13393             }%
13394             {#1}%
13395         }%
13396     \addtocounter{LWR@textcurrentfontdepth}{-1}%
13397 }%
13398 }

```

`LWR@blocktextcurrentfont` (*env*). Prints the contents with the current font choices.

```

13399 \newenvironment*{LWR@blocktextcurrentfont}{%
13400 \LWR@stoppars%
13401 \BlockClass{%
13402     text\LWR@family\LWR@origtilde{}%
13403     text\LWR@series\LWR@origtilde{}%
13404     text\LWR@shape\LWR@origtilde{}%
13405     text\LWR@shapecaps%
13406 }%
13407 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

13408 \newrobustcmd*{\LWR@HTML@mdseries}{%
13409     \LWR@print@mdseries%
13410     \renewcommand*{\LWR@f@series}{md}%
13411 }
13412 \LWR@formatted{mdseries}

```

`\bfseries`

```

13413 \newrobustcmd*{\LWR@HTML@bfseries}{%
13414     \LWR@print@bfseries%
13415     \renewcommand*{\LWR@f@series}{bf}%
13416 }
13417 \LWR@formatted{bfseries}

```

`\ebweight` From `nfssex-cfr`.

```

13418 \IfPackageLoadedTF{nfssex-cfr}{
13419 \newrobustcmd*{\LWR@HTML@ebweight}{%
13420     \LWR@print@ebweight%
13421     \renewcommand*{\LWR@f@series}{eb}%
13422 }
13423 \LWR@formatted{ebweight}
13424 }{}

```

`\lgweight` From `nfssex-cfr`.

```

13425 \IfPackageLoadedTF{nfssex-cfr}{
13426 \newrobustcmd*{\LWR@HTML@lgweight}{%
13427     \LWR@print@lgweight%
13428     \renewcommand*{\LWR@f@series}{lg}%

```



```

13429 }
13430 \LWR@formatted{lgweight}
13431 }{}

```

`\rmfamily`

```

13432 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13433   \LWR@print@rmfamily%
13434   \renewcommand*{\LWR@f@family}{rm}%
13435 }
13436 \LWR@formatted{rmfamily}

```

`\sffamily`

```

13437 \newrobustcmd*{\LWR@HTML@sffamily}{%
13438   \LWR@print@sffamily%
13439   \renewcommand*{\LWR@f@family}{sf}%
13440 }
13441 \LWR@formatted{sffamily}

```

`\ttfamily`

```

13442 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13443   \LWR@print@ttfamily%
13444   \renewcommand*{\LWR@f@family}{tt}%
13445 }
13446 \LWR@formatted{ttfamily}

```

The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```

13447 \newrobustcmd*{\LWR@HTML@upshape}{%
13448   \LWR@print@upshape%
13449   \renewcommand*{\LWR@f@shape}{up}%
13450 }
13451 \AtBeginDocument{\LWR@formatted{upshape}}

```

`\itshape`

```

13452 \newrobustcmd*{\LWR@HTML@itshape}{%
13453   \LWR@print@itshape%
13454   \renewcommand*{\LWR@f@shape}{it}%
13455 }
13456 \AtBeginDocument{\LWR@formatted{itshape}}

```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```

13457 \newrobustcmd*{\LWR@HTML@scshape}{%
13458   \ifbool{FixSmallCaps}{}%
13459   \LWR@print@scshape%
13460 }%

```

```

13461 \renewcommand*\LWR@f@shapecaps}{sc}%
13462 }
13463 \AtBeginDocument{\LWR@formatted{scshape}}

```

### \ulcshape From fontaxes.

```

13464 \@ifundefined{ulcshape}{
13465 \LetLtxMacro\ulcshape\upshape
13466 }{}
13467 \newrobustcmd*\LWR@HTML@ulcshape}{%
13468 \LWR@print@ulcshape%
13469 \renewcommand*\LWR@f@shapecaps}{ulc}%
13470 }
13471 \AtBeginDocument{\LWR@formatted{ulcshape}}

```

### \sishape

```

13472 \@ifundefined{sishape}{
13473 \LetLtxMacro\sishape\scshape
13474 }{}
13475 \newrobustcmd*\LWR@HTML@sishape}{%
13476 \ifbool{FixSmallCaps}{}{%
13477 \LWR@print@sishape%
13478 }%
13479 \renewcommand*\LWR@f@shape}{it}
13480 \renewcommand*\LWR@f@shapecaps}{sc}%
13481 }
13482 \AtBeginDocument{\LWR@formatted{sishape}}

```

### \slshape

```

13483 \newrobustcmd*\LWR@HTML@slshape}{%
13484 \LWR@print@slshape%
13485 \renewcommand*\LWR@f@shape}{sl}%
13486 }
13487 \AtBeginDocument{\LWR@formatted{slshape}}

```

### \sscshape

```

13488 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13489 \AtBeginDocument{\LWR@formatted{sscshape}}

```

### \normalfont

```

13490 \newrobustcmd*\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13491 \LWR@formatted{normalfont}

13492 \FilenameNullify{%
13493 \LetLtxMacro\rmfamily\@empty%
13494 \LetLtxMacro\sffamily\@empty%
13495 \LetLtxMacro\ttfamily\@empty%
13496 \LetLtxMacro\bfseries\@empty%
13497 \LetLtxMacro\ebweight\@empty%
13498 \LetLtxMacro\lgweight\@empty%
13499 \LetLtxMacro\mdseries\@empty%
13500 \LetLtxMacro\upshape\@empty%

```

```

13501 \LetLtxMacro\slshape\@empty%
13502 \LetLtxMacro\sishape\@empty%
13503 \LetLtxMacro\scshape\@empty%
13504 \LetLtxMacro\itshape\@empty%
13505 \LetLtxMacro\ulcshape\@empty%
13506 \LetLtxMacro\sscshape\@empty%
13507 \LetLtxMacro\normalfont\@empty%
13508 }

```

`\sp`  $\langle text \rangle$

For siunitx. Must work in math mode.

```
13509 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}}
```

`\sb`  $\langle text \rangle$

For siunitx. Must work in math mode.

```
13510 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}}
```

`\textsuperscript`  $\langle text \rangle$

```

13511 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13512 \LWR@formatted{textsuperscript}

```

`\@textsuperscript`  $\langle text \rangle$

```

13513 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13514 \LWR@formatted{@textsuperscript}

```

`\textsubscript`  $\langle text \rangle$

```

13515 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13516 \LWR@formatted{textsubscript}

```

`\@textsubscript`  $\langle text \rangle$

```

13517 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13518 \LWR@formatted{@textsubscript}

```

`\up`  $\langle text \rangle$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13519 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\langle text \rangle$  Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13520 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline {<text>}`

```
13521 \renewcommand{\underline}[1]{%
13522   \InlineClass%
13523   (text-decoration:underline; text-decoration-skip: auto)%
13524   {\underline}{#1}%
13525 }
```

`\LWR@overline {<text>}`

```
13526 \newcommand{\LWR@overline}[1]{%
13527   \InlineClass%
13528   (text-decoration:overline; text-decoration-skip: auto)%
13529   {\overline}{#1}%
13530 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
13531 \newcommand*\LWR@currenttextcolor{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.

`\LWR@tempcolortwo`

```
13532 \newcommand*\LWR@tempcolor{ }
13533 \newcommand*\LWR@tempcolortwo{ }
13534 \newcommand*\LWR@tempcolorthree{ }
```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
13535 \newcommand*\LWR@findcurrenttextcolor{%
13536   \renewcommand{\LWR@tempcolor}{000000}%
13537 }
```

`\LWR@textcurrentcolor {<text>}` Like `\textcolor` but uses the current `\color` instead.

```
13538 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13539   \renewcommand*\LWR@currenttextcolor{black}%
13540   #1%
13541 }
```

```
13542 \end{warppHTML}
```

**for PRINT output** 13543 `\begin{warpprint}`

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices.

```
13544 \newcommand*\LWR@textcurrentfont[1]{#1}
```

`\LWR@blocktextcurrentfont (env)` Prints the contents with the current font choices.

```
13545 \newenvironment*\LWR@blocktextcurrentfont{ }{ }
```

```
\FilenameNullify {⟨macros to nullify⟩}
```

```
13546 \newcommand*{\FilenameNullify}[1]{}
```

```
13547 \end{warpprint}
```

## 96 Skips, spaces, font sizes

**for HTML output** 13548 \begin{warppHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
13549 \AtBeginDocument{%
13550 \renewrobustcmd*{\,}{\HTMLUnicode{202f}}% HTML thin non-breakable space, not using LWR@formatted
13551 \newrobustcmd*{\LWR@HTML@thinspace}{\HTMLUnicode{202f}}% HTML thin non-breakable space
13552 \LWR@formatted{thinspace}
13553 \newrobustcmd*{\LWR@HTML@negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13554 \LWR@formatted{negthinspace}
13555 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% cannot use \LWR@formatted
13556 \newrobustcmd*{\LWR@HTML@textellipsis}{\HTMLUnicode{2026}}
13557 \LWR@formatted{textellipsis}
13558 \newrobustcmd*{\LWR@HTML@vdots}{\HTMLUnicode{22EE}}
13559 \LWR@formatted{vdots}
13560 }
```

Direct-formatting font sizes are remembered for future use:

```
13561 \newcommand*{\LWR@font@size}{normalsize}
13562
13563 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13564 \LWR@formatted{normalsize}
13565
13566 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
13567 \LWR@formatted{small}
13568
13569 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13570 \LWR@formatted{footnotesize}
13571
13572 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13573 \LWR@formatted{scriptsize}
13574
13575 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13576 \LWR@formatted{tiny}
13577
13578 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13579 \LWR@formatted{large}
13580
13581 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13582 \LWR@formatted{Large}
13583
13584 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13585 \LWR@formatted{LARGE}
13586
```

```

13587 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13588 \LWR@formatted{huge}
13589
13590 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13591 \LWR@formatted{Huge}

```

```

13592 \DeclareDocumentCommand{\onecolumn}{}{}
13593
13594 \DeclareDocumentCommand{\twocolumn}{O{}}{
13595
13596 #1
13597
13598 }

```

### \hfill

```

13599 \newcommand*{\LWR@HTML@hfill}{\quad}
13600 \LWR@formatted{hfill}

```

### \hrulefill

```

13601 \newcommand*{\LWR@HTML@hrulefill}{%
13602   \ifbool{LWR@doingapar}%
13603     {\rule{1in}{1pt}}%
13604     {%
13605       \LWR@findcurrenttextcolor%
13606       \ifdefstring{\LWR@tempcolor}{000000}%
13607       {%
13608         \begin{BlockClass}{hrule}%
13609         \end{BlockClass}%
13610       }%
13611     }%
13612     \begin{BlockClass}[%
13613       border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13614     ]{hrule}%
13615     \end{BlockClass}%
13616   }%
13617 }%
13618 }%
13619 \LWR@formatted{hrulefill}

```

### \dotfill

```

13620 \newcommand*{\LWR@HTML@dotfill}{\dots}
13621 \LWR@formatted{dotfill}

```

### \newpage

```

13622 \renewcommand*{\newpage}{
13623
13624 }

```

### \newline Uses the HTML <br /> element.

```

13625 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13626 \LetLtxMacro\newline\LWR@newlinebr

```

`\` Redefined to `\LWR@endofline` or `\LWR@tabularendofline`.

`\LWR@endofline` \* [*len*]

`\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```
13627 \LetLtxMacro\LWR@origendofline\
13628 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
13629 {%
13630 \newline%

13631 \setlength{\LWR@templengthone}{#2}%
13632 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13633 }
```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
13634 \newcommand*{\LWR@minipagestartpars}{%
13635   \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
13636 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
13637 \newcommand*{\LWR@minipagestoppars}{%
13638   \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
13639 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
13640 \newrobustcmd*{\LWR@HTML@quad}{%
13641   \LWR@minipagestoppars%
13642   \HTMLunicode{2003}%
13643   \LWR@minipagestartpars%
13644 }
13645 \LWR@formatted{quad}
```

`\qqad` Handles special minipage & horizontal space interactions.

```
13646 \newrobustcmd*{\LWR@HTML@qqad}{\quad\quad}
13647 \LWR@formatted{qqad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
13648 \newrobustcmd*{\LWR@HTML@enskip}{%
13649   \LWR@minipagestoppars%
13650   \HTMLunicode{2002}%
13651   \LWR@minipagestartpars%
13652 }
13653 \LWR@formatted{enskip}
```

`\LWR@tempwidth` (*Len*) Used to compute span width, height, raise for `\hspace` and `\rule`:

```
\LWR@tempheight (Len)
13654 \newlength{\LWR@tempwidth}
\LWR@tempraise (Len)
13655 \newlength{\LWR@tempheight}
13656 \newlength{\LWR@tempraise}
```

`\hspace * {<length>} * {<length>}`

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\qqad`.

```
13657 \NewDocumentCommand{\LWR@HTML@hspace}{s m}{%
13658 \setlength{\LWR@tempwidth}{#2}%
```

If `\fill`, change to `\qqad`:

```
13659 \ifnum\gluestretchorder\LWR@tempwidth>0%
13660 \setlength{\LWR@tempwidth}{2em}%
13661 \fi%
```

Only if the width is greater than zero:

```
13662 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13663   \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13664   \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13665   {%
13666     \HTMLunicode{2009}% thin breakable space
13667   }%
```

Print the span with the converted width. Not rounded.

```
13668   {%
```



```

13669     \LWR@htmltagc{%
13670     span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13671         display:inline-block\textquotedbl%
13672     }%

```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

13673     \ifbool{FormatWP}{%
13674         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13675         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13676             \quad%
13677             \addtolength{\LWR@templengthone}{-1em}%
13678         }%
13679     }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

13680     {\LWR@htmlcomment{}}%

```

Close the span:

```

13681     \LWR@htmltagc{/span}%
13682     }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13683     \LWR@minipagestartpars%
13684 }{}% width greater than 0
13685 }%
13686 \LWR@formatted{hspace}

```

`\LWR@vspace * {<length>}` Nullified vspace.

```

13687 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13688
13689 \LWR@formatted{vspace}

```

`\linebreak [<num>]` Inserts an HTML br tag.

```

13690 \renewcommand*\linebreak[1][\newline}

```

`\nolinebreak [<num>]`

```

13691 \renewcommand*\nolinebreak[1][\{

```

`\pagebreak [<num>]` Starts a new paragraph.

```

13692 \renewcommand*\pagebreak[1][\{
13693
13694 }

```

`\nopagebreak [<num>]`

```
13695 \renewcommand*\nopagebreak}[1][{}]
```

`\enlargethispage * {<len>}`

```
13696 \RenewDocumentCommand{\enlargethispage}{s m}{} 
```

`\clearpage`  
`\cleardoublepage`

```
13697 \renewcommand*\clearpage{} 
```

```
13698 \renewcommand*\cleardoublepage{} 
```

`\rule [⟨raise⟩] {⟨width⟩} {⟨height⟩}`

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
13699 \newcommand*\LWR@HTML@rule}[3][{}]{%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13700 \setlength{\LWR@tempwidth}{#2}% 
```

If it's zero-width then skip the entire rule:

```
13701 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
```

```
13702 {}% zero- width
```

```
13703 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13704 \ifthenelse{%
13705     \lengthtest{\LWR@tempwidth>0pt}\AND%
13706     \lengthtest{\LWR@tempwidth<1pt}}%
13707 }%
13708 {\setlength{\LWR@tempwidth}{1pt}}%
13709 {}%
```

Likewise with height:

```
13710 \setlength{\LWR@tempheight}{#3}%
13711 \ifthenelse{%
13712     \lengthtest{\LWR@tempheight>0pt}\AND%
13713     \lengthtest{\LWR@tempheight<1pt}}%
13714 }%
13715 {\setlength{\LWR@tempheight}{1pt}}%
13716 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13717 \LWR@minipagestoppar%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13718   \LWR@findcurrenttextcolor%
13719   \LWR@htmltagc{%
13720   span\LWR@indentHTML%
13721   style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
13722   \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13723   width:\LWR@printlength{\LWR@tempwidth} ; %
13724   height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
13725   \ifblank{#1}%
13726   {}%
13727   {%
13728       \setlength{\LWR@tempraise}{0pt-#1}%
13729       \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13730       \LWR@indentHTML%
13731       -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13732       \LWR@indentHTML%
13733       -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13734       \LWR@indentHTML%
13735       transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13736       \LWR@indentHTML%
13737   }%
```

Display inline-block to place the span inline with the text:

```
13738   display:inline-block;\textquotedbl\LWR@orignewline%
13739   }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13740   \ifbool{FormatWP}{%
13741       \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13742       \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13743           \_{}%
13744           \addtolength{\LWR@templengthone}{-1em}%
13745       }%
13746   }%
```

If NOT formatting for a word processor, add a comment to avoid an empty `<span>`:

```
13747      {\LWR@htmlcomment{}}%
```

Close the span:

```
13748      \LWR@htmltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13749      \LWR@minipagestartpars%
```

```
13750 }% non-zero width
```

```
13751 }
```

```
13752
```

```
13753 \LWR@formatted{rule}
```

```
13754 \end{warpHTML}
```

## 97 \phantomsection

**for HTML output** 13755 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref \phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```
13756 \newrobustcmd*{\LWR@phantomsection}{%
```

```
13757   \begingroup%
```

```
13758   \boolfalse{LWR@forcinghtmltoc}%
```

```
13759   \section*{}}%
```

```
13760   \endgroup%
```

```
13761 }
```

```
13762 \end{warpHTML}
```

## 98 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

**for HTML & PRINT** 13763 \begin{warpall}

```
13764 \newbool{LWR@warnXe}
```

```
13765 \boolfalse{LWR@warnXe}
```

```
13766
```

```
13767 \newrobustcmd*{\Xe}
```

```
13768   {%
```

```

13769      X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13770      \global\booltrue{LWR@warnXe}%
13771    }
13772
13773 \AtBeginDocument{
13774   \IfPackageLoadedTF{graphics}{
13775     \IfPackageLoadedTF{metalogo}{}{
13776       \renewrobustcmd*{\Xe}
13777         {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
13778     }
13779   }{}
13780 }
13781
13782 \AtEndDocument{
13783   \ifbool{LWR@warnXe}{
13784     \PackageNoteNoLine[lwarp]{Load graphicx or graphics
13785       for improved XeTeX logo}
13786   }{}
13787 }
13788
13789 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13790 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13791 \providerobustcmd*{\AmS}{%
13792   \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13793     \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13794 }
13795 \newrobustcmd*{\LyX}{\textsf{LyX}}
13796 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13797 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13798 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13799 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13800 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
13801 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13802 \end{warppall}

```

**for HTML output** 13803 \begin{warppHTML}

The print-mode versions of the following may be changed by metalogo, so their print formatting is recorded \AtBeginDocument.

\TeX T<sub>E</sub>X

latexlogo is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X and friends.

latexlogofont is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, LuaT<sub>E</sub>X, ConT<sub>E</sub>Xt, etc.

```

13804 \newrobustcmd*{\LWR@HTML@TeX}
13805 {%
13806   \InlineClass{latexlogofont}%
13807   {%
13808     \InlineClass{latexlogo}%
13809     {%
13810       T%
13811       \InlineClass{latexlogosub}{e}%
13812       X%
13813     }%
13814   }%
13815 }

```

13816 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

\LaTeX L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>

\LaTeXe

```

13817 \newrobustcmd*{\LWR@HTML@LaTeX}
13818 {%
13819   \InlineClass{latexlogofont}%
13820   {%
13821     \InlineClass{latexlogo}%
13822     {%
13823       L%
13824       \InlineClass{latexlogosup}{a}%
13825       T%
13826       \InlineClass{latexlogosub}{e}%
13827       X%
13828     }%
13829   }%
13830 }
13831
13832 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13833
13834
13835 \newrobustcmd*{\LWR@HTML@LaTeXe}
13836 {%
13837   \LaTeX%
13838   \InlineClass{latexlogofont}{%
13839     \InlineClass{latexlogotwoe}{%
13840       2%
13841       \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13842     }%
13843   }%
13844 }
13845 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX Lua<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X

\LuaLaTeX

```

13846 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13847 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13848
13849 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13850 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X, X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X

\XeLaTeX

xetexlogo is a css class which aligns the backwards E in X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and spaces T<sub>E</sub>X appropriately.

xelatexlogo is a css class which aligns the backwards E in X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and spaces L<sup>A</sup>T<sub>E</sub>X appropriately.

```

13851 \newrobustcmd*{\LWR@HTML@Xe}
13852   {%
13853     X%
13854     \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13855   }
13856 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13857
13858 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}

```

```

13859 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13860
13861 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13862 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

### \ConTeXt ConTeXt

```

13863 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13864   \InlineClass{latexlogofont}{Con}\TeX}%
13865   \InlineClass{latexlogofont}{t}%
13866 }
13867 \LWR@formatted{ConTeXt}

```

### \BibTeX BibTeX, MakeIndex

#### \MakeIndex

```

13868 \newrobustcmd*{\LWR@HTML@BibTeX}
13869   {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
13870 \LWR@formatted{BibTeX}
13871
13872 \newrobustcmd*{\LWR@HTML@MakeIndex}
13873   {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13874 \LWR@formatted{MakeIndex}

```

### \AmS $\mathcal{A}\mathcal{M}\mathcal{S}$

amslogo is a css class used for the  $\mathcal{A}\mathcal{M}\mathcal{S}$  logo.

```

13875 \AtBeginDocument{%
13876 \newrobustcmd*{\LWR@HTML@AmS}
13877 {%
13878   \InlineClass{amslogo}{%
13879     \textit{%
13880       A%
13881       \InlineClass{latexlogosub}{M}%
13882       S%
13883     }}%
13884   }%
13885 }%
13886 \LWR@formatted{AmS}
13887 }

```

### \MiKTeX MiKTeX

```

13888 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13889 \LWR@formatted{MiKTeX}

```

### \LyX LyX

lyxlogo is a css class used for the LyX logo.

```

13890 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13891 \LWR@formatted{LyX}

13892 \end{warpHTML}

```

## 99 Starting and stopping lwarp

**for HTML output**13893 \begin{warpHTML}

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.  
 \LWR@LwarpEnd

```
13894 \AfterEndPreamble{\LWR@LwarpStart}
13895 \AtEndDocument{\LWR@LwarpEnd}
13896 \DeclareHookRule{enddocument}{lwarp}{after}{legacy}

13897 \end{warpHTML}
```

## 100 Loading array

array is required for lwarp's column parsing. It and its patches are now loaded.

**for HTML output**13898 \begin{warpHTML}  
 13899 \RequirePackage{array}

The following are compared with the tabular preamble > to add css classes to adjust tabular cells. Defined here now that \arraybackslash is defined after array is loaded.

```
13900 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
13901 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
13902 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
13903 \def\LWR@detect@itshape{\itshape}
13904 \def\LWR@detect@bfseries{\bfseries}
13905 \def\LWR@detect@bfit{\bfseries\itshape}
13906 \end{warpHTML}
```

## 101 Loading everyshi patches

everyshi is emulated by the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded here. \AtBeginDocument is used in case an older version of L<sup>A</sup>T<sub>E</sub>X is used.

**for HTML output**13907 \begin{warpHTML}  
 13908 \AtBeginDocument{  
 13909     \IfPackageLoadedTF{everyshi}{  
 13910         \RequirePackage{lwarp-everyshi}  
 13911     }}  
 13912 }  
 13913 \end{warpHTML}

## 102 Loading textcomp patches

textcomp has now been integrated into the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded now.



```

for HTML output13914 \begin{warpHTML}
13915 \RequirePackage{lwarp-textcomp}
13916 \end{warpHTML}

```

## 103 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

```

for HTML output13917 \begin{warpHTML}
13918 \IfPackageLoadedTF{amsthm}{
13919   \RequirePackage{lwarp-amsthm}
13920 }{}

13921 \IfPackageLoadedTF{amsmath}{
13922   \RequirePackage{lwarp-amsmath}
13923 }{}

```

amsthm may load centernot, so centernot must be checked second.

```

13924 \IfPackageLoadedTF{centernot}{
13925   \RequirePackage{lwarp-centernot}
13926 }{}
13927 \end{warpHTML}

```

## 104 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```

for HTML output13928 \begin{warpHTML}

13929 \IfClassLoadedTF{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
13930 \IfClassLoadedTF{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
13931 \IfClassLoadedTF{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

13932 \end{warpHTML}

```

## 105 Loading MEMOIR class patches

Load patches to memoir.

```

for PRINT output13933 \begin{warpprint}
13934 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{}
13935 \end{warpprint}

```

```

for HTML output13936 \begin{warpHTML}
13937 \IfClassLoadedTF{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13938 \end{warpHTML}

```

## 106 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

for HTML output

```

13939 \begin{warpHTML}

13940 \newcommand*\LWR@patchujtclasses}{

    uj/t does not use \partname

13941     \def\@partnameformat{}

13942     \def\@partcntformat##1{%
13943         \prepartname%
13944         \csname the##1\endcsname%
13945         \postpartname%
13946         \quad%
13947     }
13948     \ifundefined{chapter}{}{
13949         \def\@chapcntformat##1{%
13950             \prechaptername%
13951             \csname the##1\endcsname%
13952             \postchaptername%
13953             \quad%
13954         }
13955     }
13956     \renewcommand*\LWR@printchaptername}{}
```

Use decimal points instead of centered dots:

```

13957     \renewcommand{\thepart}{\@Roman\c@part}
13958     \ifundefined{chapter}{
13959         \renewcommand{\thesection}{\@arabic\c@section}
13960     }{
13961         \renewcommand{\thechapter}{\@arabic\c@chapter}
13962         \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13963     }
13964     \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13965     \renewcommand{\thesubsubsection}{%
13966         \thesubsection.\@arabic\c@subsubsection}
13967     \renewcommand{\theparagraph}{%
13968         \thesubsubsection.\@arabic\c@paragraph}
13969     \renewcommand{\thesubparagraph}{%
13970         \theparagraph.\@arabic\c@subparagraph}
13971     \ifundefined{chapter}{
13972         \renewcommand{\thefigure}{\@arabic\c@figure}
13973         \renewcommand{\thetable}{\@arabic\c@table}
13974     }{
13975         \renewcommand{\thefigure}{%
13976             \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13977         \renewcommand{\thetable}{%
13978             \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13979     }
13980 }
13981
13982 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{}
13983 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{}
13984 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{}

```

```

13985 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{}
13986 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{}
13987 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{}
13988 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{}
13989 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{}
13990 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{}
13991 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{}
13992 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{}
13993 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{}
13994 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{}
13995 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{}
13996 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{}
13997 \IfClassLoadedTF{ltjtbook}{\LWR@patchujtclasses}{}
13998 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{}

13999 \end{warpHTML}

```

## 107 CTEX patches

Patches for ctex and related classes, which are loaded before lwarp.

All CTEX classes and the ctex package seem to load ctexpatch, so its presence is used to decide whether to have lwarp patch CTEX.

**for HTML output** `!4000 \begin{warpHTML}`

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

14001 \AtBeginDocument{
14002   \IfPackageLoadedTF{ctexpatch}{%
14003     \def\@partcntformat#1{%
14004       \LWR@isolate{\CTEX@partname}~%
14005       \CTEX@part@aftername%
14006     }%
14007
14008     \def\@partnameformat{}
14009
14010     \def\@chapcntformat#1{%
14011       \LWR@isolate{\CTEX@chaptername}~%
14012       \CTEX@chapter@aftername%
14013     }%
14014
14015     \renewcommand*{\LWR@printchaptername}{}
14016   }{}
14017 }

14018 \end{warpHTML}

```

## 108 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's \@setref was conflicting with lwarp's cross references.

**for HTML output** `!4019 \begin{warpHTML}`

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

14020 \AtBeginDocument{
14021 \IfPackageLoadedTF{kotexutf}{%
14022   \def\LWR@kotexutf@setref#1#2#3{%
14023     \@setref@dhu@orig{#1}{#2}{#3}%
14024     \ifx#1\relax\else
14025       \bgroup
14026       \dhu@make@ckchar@null
14027       \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
14028       \egroup
14029       \fi%
14030     }%
14031   }%
14032   \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
14033     \let\@setref\@setref@dhu@orig
14034   }{}
14035 }{}
14036 }

14037 \end{warpHTML}

```

## 109 babel and polyglossia warnings

`lwarp` prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

`lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output 14038 \begin{warpHTML}
14039 \AtBeginDocument{
14040
14041 \IfPackageLoadedTF{polyglossia}{
14042   \PackageNoteNoLine{lwarp}
14043   {%
14044     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
14045     See the cleveref documentation regarding\MessageBreak
14046     polyglossia support. Some languages are not supported.\MessageBreak

```

```

14047     --- \MessageBreak
14048     If the error\MessageBreak
14049     \space\space Undefined control sequence ...
14050     \protect\__hook begindocument\MessageBreak
14051     occurs here, use the polyglossia macro:\MessageBreak
14052     \space\space\protect\setmainlanguage\protect{...\protect}
14053   }
14054 }{
14055   \IfPackageLoadedTF{babel}{
14056     \PackageNoteNoLine{lwarp}
14057     {%
14058       Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
14059       See the cleveref documentation regarding\MessageBreak
14060       babel support. Some languages are not supported%
14061     }
14062   }{ }
14063 }
14064
14065 }
14066 \end{warpHTML}

```

## 110 MATHJAX warnings

`\LWR@mathjaxwarn {<packagename>} {<More text.>}`

Issue a warning that MATHJAX is emulated. To be done `\AtBeginDocument`.

```

14067 \newcommand*{\LWR@mathjaxwarn}[2]{%
14068   \IfPackageLoadedTF{lwarp-#1}{%
14069     \ifblank{#2}{%
14070       \PackageWarningNoLine{lwarp}
14071       {%
14072         Lwarp provides emulation for MathJax when used\MessageBreak
14073         with the #1 package%
14074       }
14075     }{%
14076       \PackageWarningNoLine{lwarp}
14077       {%
14078         Lwarp provides emulation for MathJax when used\MessageBreak
14079         with the #1 package.\MessageBreak
14080         #2%
14081       }
14082     }%
14083   }{ }%
14084 }
14085
14086 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
14087 %
14088 % Issue a warning that \MathJax\ is not supported.
14089 % To be done \cs{AtBeginDocument}.
14090 %
14091 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}
14092 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}
14093 %   \begin{macrocode}
14094 \newcommand*{\LWR@nomathjaxwarn}[2]{%
14095   \IfPackageLoadedTF{lwarp-#1}{%
14096     \ifblank{#2}{%

```

```

14097     \PackageWarningNoLine{lwarp}
14098         {%
14099             Lwarp does not provide MathJax support for #1.\MessageBreak
14100             Use SVG math by removing the Lwarp mathjax option%
14101         }
14102     }{%
14103     \PackageWarningNoLine{lwarp}
14104         {%
14105             Lwarp does not provide MathJax support for #1.\MessageBreak
14106             #2%
14107         }
14108     }%
14109 }{%
14110 }

```

`\LWR@forceSVGmessage {<packagename>}`

```

14111 \newcommand*{\LWR@forceSVGmessage}[1]{%
14112     SVG math output may be enabled for select math\MessageBreak
14113     expressions to preserve #1 visual\MessageBreak
14114     features for those particular expressions.\MessageBreak
14115     Before the chosen inline math, use \protect\inlinemathother\MessageBreak
14116     to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14117     afterward to resume using MathJax math.\MessageBreak
14118     Before display math, use \protect\displaymathother\MessageBreak
14119     to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14120     after to resume using MathJax for the following math.\MessageBreak
14121     Or, use SVG math for all expressions by removing\MessageBreak
14122     the mathjax option for the lwarp package%
14123 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

14124 \AtBeginDocument{
14125     \ifbool{mathjax}{
14126         \LWR@nomathjaxwarn{aligned-overset}{}
14127         \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}
14128         \LWR@mathjaxwarn{arydshln}
14129             {In a math array, do not use the optional argument\MessageBreak
14130             for \protect\cdashline.\space\space
14131             Furthermore, \protect\cline\space is not\MessageBreak
14132             supported by MathJax}
14133         \LWR@nomathjaxwarn{autoaligne}{}
14134         \LWR@mathjaxwarn{autonum}
14135             {MathJax does not support equation+.\MessageBreak
14136             You may use the warpprint and warpHTML\MessageBreak
14137             environments to isolate the package load\MessageBreak
14138             and the equation+ environments}
14139         \LWR@mathjaxwarn{bigdelim}
14140             {Delimiters appear only of the first line}
14141         \LWR@nomathjaxwarn{boldtensors}{}
14142         \LWR@mathjaxwarn{booktabs}
14143             {\protect\cmidrule\space is not displayed}
14144         \LWR@mathjaxwarn{breqn}
14145             {Each environment becomes an SVG image}
14146         \LWR@mathjaxwarn{colortbl}
14147             {Colors are ignored in MathJax.\MessageBreak
14148             (Text mode tabular does support colortbl.)\MessageBreak
14149             \LWR@forceSVGmessage{colortbl}}

```

```

14150 \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}
14151 \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}
14152 \LWR@mathjaxwarn{hhline}
14153   {A simple \protect\hline\space is used}
14154 \LWR@mathjaxwarn{isomath}
14155 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14156   do not use a sans font because MathJax does not yet\MessageBreak
14157   have sans Greek. Tensors may look like vectors%
14158 }
14159 \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}
14160 \LWR@mathjaxwarn{libertinust1math}
14161 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14162   do not use a sans font because MathJax does not yet\MessageBreak
14163   have sans Greek. Tensors may look like vectors%
14164 }
14165 \LWR@mathjaxwarn{mathtools}
14166   {See the Lwarp manual regarding the disallowspaces\MessageBreak
14167   and showonlyrefs options, the alignat environment,\MessageBreak
14168   and \protect\DeclarePairedDelimiter\space and related%
14169 }
14170 \LWR@mathjaxwarn{mathspec}
14171   {Double quotes are removed, even inside \protect\text}
14172 \LWR@mathjaxwarn{mismath}
14173   {MathJax does not support \cs{enumber}, \cs{inumber},\MessageBreak
14174   \protect\jnumber, \protect\pinumber, \protect\MathUp, \protect\MathIt,\MessageBreak
14175   \protect\MathNumbers, or \protect\MathNormal.\MessageBreak
14176   \protect\itpi\space is made available as a clone of \protect\pi.\MessageBreak
14177   Tensors are not sans serif%
14178 }
14179 \LWR@mathjaxwarn{multirow}
14180   {Multirow works as expected in text mode, but\MessageBreak
14181   limited emulation is provided for MathJax math.\MessageBreak
14182   \protect\multirow\space ignores all arguments except\MessageBreak
14183   the text}
14184 \LWR@mathjaxwarn{nicematrix}
14185   {Keys/values are ignored in MathJax.\MessageBreak
14186   \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14187   AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14188   \protect\CodeBefore, \protect\Body, and \protect\CodeAfter\MessageBreak
14189   \space\space also are not supported for MathJax.\MessageBreak
14190   \LWR@forceSVGmessage{nicematrix}%
14191 }
14192 \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14193 % \LWR@mathjaxwarn{physics}
14194 % %   {The third-party extension is not used.\MessageBreak
14195 %   {The MathJax v3 extension is used.\MessageBreak
14196 %   See the Lwarp manual for details}
14197 \LWR@mathjaxwarn{siunitx}
14198 {Place \protect\sisetup\space before \protect\begin{document}.\MessageBreak
14199   Many optional arguments are ignored}
14200 \LWR@nomathjaxwarn{tensind}{\LWR@forceSVGmessage{tensind}}
14201 \LWR@mathjaxwarn{unicode-math}
14202   {Do not use embedded Unicode characters.\MessageBreak
14203   (Not all characters are encoded correctly.)\MessageBreak
14204   Some symbol fonts are not supported by MathJax,\MessageBreak
14205   and are only approximated.\MessageBreak
14206   Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
14207   option. Latin symbols does not, per MathJax\MessageBreak
14208   limitations, unless placed inside \protect\symbit\space or similar}
14209 \LWR@nomathjaxwarn{unitsdef}{\LWR@forceSVGmessage{unitsdef}}

```

```
14210     \LWR@mathjaxwarn{witharrows}
14211         {Arrows can only point to the next line.\MessageBreak
14212         Text is only placed on a single line}
14213     \LWR@nomathjaxwarn{xy}
14214     {In text, xy works as-is. SVG images will be generated.\MessageBreak
14215     \LWR@forceSVGmessage{xy}}
14216 }{}
14217 }
```



---

 File 2 **lwarp-2in1.sty**

 § 111 Package **2in1**

2in1 (*Pkg*) 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

 File 3 **lwarp-2up.sty**

 § 112 Package **2up**

2up (*Pkg*) 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

---

 File 4 **lwarp-a4.sty**

 § 113 Package **a4**

a4 (*Pkg*) a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```

2 \newcommand*\WideMargins{}

```

---

 File 5 **lwarp-a4wide.sty**

 § 114 Package **a4wide**

a4wide (*Pkg*) a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 115 Package **a5comb**


`a5comb` (*Pkg*) `a5comb` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{a5comb}`

File 7 **lwarp-abstract.sty**§ 116 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

`abstract` (*Pkg*) `abstract` is supported and patched by `lwarp`.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** `memoir` provides an abstract environment even though it is not an article or report class. Meanwhile, `lwarp` loads `book` to emulate `memoir`, but `book` does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for `lwarp-abstract`:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}
18 {
19 \renewenvironment{abstract}{%
```

```

20% % \titlepage
21% \null\vfil
22% \@beginparpenalty\@lowpenalty
23 \setup@bstract
24 \if@bsrunin
25 \else
26% \if@bsstyle
27% \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28% \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34% \endparpenalty\@M
35 \end\absnamepos%
36 \vspace{\abstitlekip}%
37 \fi
38% \fi
39% \vspace{\abstitlekip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}%\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48% \titlepage
49 \null\vfil
50 \@beginparpenalty\@lowpenalty
51 \if@bsrunin
52 \else
53 \if@bsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 \endparpenalty\@M
62 \end\absnamepos%
63%% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs

```

```

80         \num@bs
81         \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85%%         \vspace{\abstitleskip}%
86         \fi
87         \fi
88         \vspace{\abstitleskip}%
89         \fi
90         \put@bsintoc%
91         \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92         {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

File 8 **lwarp-academicons.sty**

§ 117 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

academicons (*Pkg*) academicons is patched for use by lwarp.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]

```

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7   \begin{lateximage}*[academicon][academicons#1]%
8   \begingroup%
9   \LWR@academicons@orig@AI%
10  \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16   \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21   \begin{lateximage}*[#1 icon][academicons#1]%
22   \AI\cname aiicon@#1\endcsname%
23   \end{lateximage}%
24 }

```

File 9 **lwarp-accents.sty**§ 118 Package **accents***(Emulates or patches code by JAVIER BEZOS.)*accents (*Pkg*) accents is used as-is for SVG math, and is emulated for MATHJAX.**for HTML output:** 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20   {%
21     \renewcommand{\grave}[1]{\LARGE\LWRgrave{#1}}}%
22     \renewcommand{\acute}[1]{\LARGE\LWRacute{#1}}}%
23     \renewcommand{\check}[1]{\LARGE\LWRcheck{#1}}}%
24     \renewcommand{\breve}[1]{\LARGE\LWRbreve{#1}}}%
25     \renewcommand{\bar}[1]{\LARGE\LWRbar{#1}}}%
26     \renewcommand{\hat}[1]{\LARGE\LWRhat{#1}}}%
27     \renewcommand{\dot}[1]{\LARGE\LWRdot{#1}}}%
28     \renewcommand{\tilde}[1]{\LARGE\LWRtilde{#1}}}%
29     \renewcommand{\ddot}[1]{\LARGE\LWRddot{#1}}}%
30     \renewcommand{\vec}[1]{\LARGE\LWRvec{#1}}}%
31     \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32     \underset{\raise 2pt {#1}}{#2}%
33     \let\grave\LWRgrave%
34     \let\acute\LWRacute%
35     \let\check\LWRcheck%
36     \let\breve\LWRbreve%
37     \let\bar\LWRbar%

```

```

38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 119 Package **accessibility**

accessibility (*Pkg*) accessibility is emulated.

**for HTML output:** Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

For MATHJAX:

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 120 Package **accsupp**

accsupp (*Pkg*) accsupp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}

For MATHJAX:


4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```

File 12 **lwarp-acro.sty**§ 121 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

acro (*Pkg*) **acro** is patched for use by **lwarp**.

 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

`\DeclareAcronym` is used in the preamble, where **lwarp** has not yet made the dollar active, so temporarily enable **lwarp** math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5   \acro_declare_acronym:nn {#1} {#2}
6   \catcode'\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{*}{
11   \catcode'\$=\active% lwarp
12   \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots\space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 { }% v3 or later
21 { }% before v3
22 \IfPackageAtLeastTF{acro}{2019/09/23}%
23 { }% v2.10 or later
24 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
25 {
26   \mode_if_horizontal:F { \leavevmode }
27   \group_begin:
28     \use:x
29     {
30       \bool_if:cTF {l__acro_custom_#1_format_bool}
31       { \exp_not:v {l__acro_custom_#1_format_tl} }
32       { \exp_not:v {l__acro_#1_format_tl} }
33       { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34     }
35   \group_end:
```

```

36 }
37
38 \cs_gset_protected:Npn \__acro_ending_format:nn #1#2
39 {
40   \bool_if:NTF \l__acro_include_endings_format_bool
41     {
42       \str_case:nn {#1}
43         {
44           {long}
45           {
46             \bool_if:NTF \l__acro_custom_long_format_bool
47               { \l__acro_custom_long_format_tl }
48               {
49                 \bool_if:NTF \l__acro_first_instance_bool
50                   { \l__acro_first_long_format_tl }
51                   { \l__acro_long_format_tl }
52               }
53           }
54         }
55         {short}
56         {
57           \bool_if:NTF \l__acro_custom_short_format_bool
58             { \l__acro_custom_short_format_tl }
59             { \l__acro_short_format_tl }
60         }
61         {alt}
62         {
63           \bool_if:NTF \l__acro_custom_alt_format_bool
64             { \l__acro_custom_alt_format_tl }
65             { \l__acro_alt_format_tl }
66         }
67       }
68     { \use:n }
69     {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71 }% v2.10 or later
72 {% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75   \mode_if_horizontal:F { \leavevmode }
76   \group_begin:
77     \bool_if:NTF \l__acro_custom_format_bool
78       { \l__acro_custom_format_tl }
79       { \l__acro_short_format_tl }
80     {\LWR@textcurrentfont{#2}}% lwarp
81   \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86   \mode_if_horizontal:F { \leavevmode }
87   \group_begin:
88     \bool_if:NTF \l__acro_custom_format_bool
89       { \l__acro_custom_format_tl }
90       { \l__acro_alt_format_tl }
91     {\LWR@textcurrentfont{#2}}% lwarp
92   \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2

```



```

96 {
97   \mode_if_horizontal:F { \leavevmode }
98   \group_begin:
99     \bool_if:NTF \l__acro_custom_long_format_bool
100     { \l__acro_custom_long_format_tl }
101     { \use:n }
102     {
103       \use:x
104       {
105         \exp_not:n {#1}
106         {
107           \bool_if:NTF \l__acro_first_upper_bool
108           { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
109             \LWR@textcurrentfont{#2}% lwarp
110           } } }
111           { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112         }
113       }
114     }
115   \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```


---

File 13 **lwarp-acronym.sty**

§ 122 Package **acronym**

*(Emulates or patches code by TOBIAS OETIKER.)*

acronym (*Pkg*) acronym is patched for use by lwarp.

 **multiply-defined labels** \acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2020/04/17]

Simplifies for HTML:

```

2 \expandafter\def\csname AC@\AC@prefix{ }\acro\endcsname#1[#2]#3{%
3   \ifAC@noList%
4   \else%
5   \ifnum%
6     \ifAC@printonlyused 1%
7     \else\ifAC@printonlyreused 1%
8     \else 0\fi\fi%
9   =1\relax%
10  \ifnum%
11    \ifAC@printonlyused%
12    \expandafter\ifx\csname acused@#1@once\endcsname\AC@used 1 \else 0 \fi%
13    \else\ifAC@printonlyreused%
14    \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used 1 \else 0 \fi%
15    \else 0 \fi\fi%
16  =1\relax%
17  \item[\protect\AC@hypertarget{#1}]%
18    \AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}%

```

```

19    }}\AC@hyperref[acro:#1]{#3}%
20    \ifAC@withpage%
21    \expandafter\ifx\csname r@acro:#1\endcsname\relax%
22    \PackageInfo{acronym}{%
23    Acronym #1 used in text but not spelled out in
24    full in text}%
25    \else%
26    \nobreak\leaders\hbox{%
27    $m@th\mkern\@dotsep mu\hbox{.}\mkern\@dotsep mu$%
28    }\hfill%
29    \nobreak\hb@xt@\@pnumwidth{%
30    \hfil\normalfont\normalcolor
31    \quad --- % lwarp
32    \AC@pageref{acro:#1}%
33    }%
34    \fi%
35    \fi\}%
36    \fi%
37    \else%
38    \item[protect\AC@hypertarget{#1}{\AC@hyperref[acro:#1]{\acLabelfont{#2}\hfill}}]%
39    \AC@hyperref[acro:#1]{#3}%
40    \fi%
41    \fi%
42    \begingroup
43    \def\acroextra##1{%
44    \@bsphack
45    \ifAC@printonlyreused%
46    \protected@write\@auxout{}{%
47    \string\newacro{#1}%
48    \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used%
49    \string\AC@hyperLink{#1}{#2}%
50    \else%
51    {#2}%
52    \fi%
53    }{#3}%
54    }%
55    \else%
56    \protected@write\@auxout{}{%
57    \string\newacro{#1}[\string\AC@hyperLink{#1}{#2}]{#3}%
58    }%
59    \fi%
60    \@esphack
61    \endgroup
62    \ignorespaces}

```

Uses `\textit` instead of `\itshape`:

```

63 \renewcommand{\acfia}[1]{%
64 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}

```

Removes the `mbox` to allow math inside:

```

65 \renewcommand*\AC@acs[1]{%
66 % \mbox{
67 \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
68 % }

```

Fix for acronym labels in the captions of floats.

```

69 \renewcommand{\@starttoc}[1]{%
70   \LWR@htmlElementclass{nav}{#1}
71   \LetLtxMacro\@verridelabel\@gobble
72   \LWR@orig@starttoc{#1}
73   \LWR@htmlElementclassend{nav}{#1}
74 }

```

Modified for cleveref and lwarp:

```

75 \renewcommand*\AC@und@newlabel[3]{%
76   \@ifundefined{#1@#3}%
77   {%
78     \global\expandafter\let\csname#2@#3\endcsname\@nnil
79     \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
80     \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
81   }%
82   {%
83     \global\expandafter\let\csname#1@#3\endcsname\relax
84     \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
85     \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
86   }%
87 }%

```

Improve paragraph handling:

```

88 \BeforeBeginEnvironment{acronym}{\LWR@stoppars}
89 \AfterEndEnvironment{acronym}{\LWR@startpars}

```

Create hyperlinks, even though hyperref is only emulated:

```

90 \AtBeginDocument{
91   \LetLtxMacro\AC@hyperlink\hyperlink
92   \LetLtxMacro\AC@hyperref\hyperref
93   \newcommand*\AC@raisedhypertarget[2]{%
94     \Hy@raisedlink{%
95       \hypertarget{#1}}}%
96   }%
97   #2}%
98   \LetLtxMacro\AC@hypertarget\AC@raisedhypertarget
99   \def\AC@phantomsection{%
100     \Hy@GlobalStepCount\Hy@linkcounter
101     \edef\@currentHref{section*.\the \Hy@linkcounter}%
102     \Hy@raisedlink{%
103       \hyper@anchorstart{\@currentHref}\hyper@anchorend
104     }%
105     \phantomsection%
106   }%
107 }
108
109 \appto\LWR@restoreorigformatting{%
110   \LetLtxMacro\AC@hyperlink\@secondoftwo
111   \LetLtxMacro\AC@hyperref\LWR@nullify@hyperref%
112 }

```

File 14 **lwarp-adjmulticol.sty**§ 123 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

adjmulticol (*Pkg*) adjmulticol is emulated.

Emulation similar to multicols is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {<numcols>} {<left margin>} {<right margin>}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{ }%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{ }%

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand\*\LWR@mccolstype{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mccolstype{singlecolumn}}{ }%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mccolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 124 Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

`addlines (Pkg)` `addlines` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

```

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

---

File 16 **lwarp-afterpage.sty**

§ 125 Package **afterpage**

*(Emulates or patches code by DAVID CARLISLE.)*

`afterpage (Pkg)` `afterpage` is emulated.

**for HTML output:** Discard all options for `lwarp-afterpage`:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1]{#1}

```

---

File 17 **lwarp-algorithm2e.sty**

§ 126 Package **algorithm2e**

*(Emulates or patches code by CHRISTOPHE FIORIO.)*

`algorithm2e (Pkg)` `algorithm2e` is patched for use by `lwarp`.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```

2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}

```

Select the `lwarp` float style according to the `algorithm2e` style:

```

3 \newcommand*\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf}{boxed}
7 }{}
8

```

```

9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf}{plain}
15 }{}

```

Paragraph handling to allow line numbers under certain conditions:

```

16 \renewcommand{\algocf@everypar}{%
17   \ifbool{LWR@algocf@dopars}{%
18     \ifbool{LWR@doingstartpars}{%
19       \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
20         }{}%
21         }{}%

```

`algorithm2e` uses `\everypar`, so the open paragraph tag is generated here instead of `\LWR@openparagraph`:

```

22           \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
23
24           \algocf@everyparn\algocf@everyparhanging%
25           }{}%
26     }{}%
27 }

```

lwarp caption handling:

```

28 \renewcommand{\algocf@makecaption}[2]{%
29   \LWR@HTML@caption@begin{algocf}%
30   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31   \LWR@HTML@caption@end%
32 }

```

Print any caption where it is declared:

```

33 \renewcommand{\algocf@makecaption@plain}[2]{%
34   \LWR@HTML@caption@begin{algocf}%
35   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36   \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40   \LWR@HTML@caption@begin{algocf}%
41   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42   \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46   \LWR@HTML@caption@begin{algocf}%
47   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48   \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
51 \boolfalse{LWR@algocf@dopars}%      lwarp
52 \par%
53 \addcontentsline{\csname ext@#1\endcsname}{#1}%
54 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \@parboxrestore%
57 \if@minipage%
58 \setminipage%
59 \fi%
60 \normalsize%
61 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}%      lwarp
64 }

```

Line numbers are printed in a `<span>` of class `alg2elinenumber`:

```

65 \renewcommand{\algocf@printnl}[1]{%
66 \InlineClass{alg2elinenumber}{\NlSty{#1}}~%
67 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

68 \preto\@algocf@init{%
69 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\endalgoln\fi}%
73 % \raggedright%
74 \ALFnt{}%
75 \booltrue{LWR@algocf@dopars}% lwarp
76 }
77
78 \renewcommand{\@algocf@finish}{%
79 \boolfalse{LWR@algocf@dopars}% lwarp
80 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81 \let\;=\@mathsemicolon%
82 \let\]=\@mathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90 \algocf@newcommand{#1}[1]{%
91 \ifthenelse{\boolean{algocf@hanginginout}}%

```

```

92     {\relax}%
93     {\algocf@seteveryparhanging{\relax}}%
94     \ifthenelse{\boolean{algocf@inoutnumbered}}%
95     {\relax}%
96     {\algocf@seteveryparnl{\relax}}%
97     {%
98         \KwSty{#2\algocf@typo:}%
99         ~##1\par%
100    }%
101    \algocf@linesnumbered% reset the numbering of the lines
102    \ifthenelse{\boolean{algocf@hanginginout}}%
103    {\relax}%
104    {\algocf@reseteveryparhanging}%
105  }%
106 }%
107
108 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@vline}[1]{%
110     \boolfalse{LWR@algocf@dopars}%
111     \begin{BlockClass}{alg2evline}
112     \booltrue{LWR@algocf@dopars}%
113     #1
114     \boolfalse{LWR@algocf@dopars}%
115     \end{BlockClass}
116     \booltrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@vsline}[1]{%
119     \boolfalse{LWR@algocf@dopars}%
120     \begin{BlockClass}{alg2evsline}
121     \booltrue{LWR@algocf@dopars}%
122     #1
123     \boolfalse{LWR@algocf@dopars}%
124     \end{BlockClass}
125     \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@noline}[1]{%
128     \boolfalse{LWR@algocf@dopars}%
129     \begin{BlockClass}{alg2enoline}
130     \booltrue{LWR@algocf@dopars}%
131     #1
132     \boolfalse{LWR@algocf@dopars}%
133     \end{BlockClass}
134     \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```



File 18 **lwarp-algorithmicx.sty**§ 127 Package **algorithmicx**

(Emulates or patches code by SZÁSZ JÁNOS.)

algorithmicx (*Pkg*) **algorithmicx** is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the `algorithmic` environment, level indenting is converted to a `<span>` of the required length, and comments are placed inside a `<span>` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 639.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9   span style=\textquotedbl{}%
10     width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11   \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26   \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%

```

File 19 **lwarp-alltt.sty**§ 128 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

`alltt` (*Pkg*) `alltt` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {}%
8     {%
9       \LWR@forcenewpage
```

Vertical spacing changes if inside a list.

```

10       \LWR@atbeginverbatim{alltt}%
11     }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16     {}%
17     {%
```

Vertical spacing changes if inside a list.

```

18       \LWR@afterendverbatim%
19     }%
20 }
21
22 }
```


---

File 20 **lwarp-amscdx.sty**

§ 129 Package **amscdx**

(Emulates or patches code by MARTIN VERMEER.)

`amscdx` (*Pkg*) `amscdx` is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \renewenvironment{CD}
5     {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6     {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}}{}
10 \CustomizeMathJax{\newcommand{\CDFatfalse}}{}
11 \CustomizeMathJax{\newcommand{\CDashtrue}}{}
12 \CustomizeMathJax{\newcommand{\CDashfalse}}{}}
```

```
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}
```

---

File 21 **lwarp-amsmath.sty**

§ 130 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

amsmath (*Pkg*) amsmath is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso

An HTML text-mode version.

```
2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow `\eqref` inside a caption:

```
4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform#1{\maketag@@@{\ignorespaces#1\unskip}}
```

Patches for  $\mathcal{M}\mathcal{S}$  math `\tag` macro to remember the first tag:

```
6 \ifbool{mathjax}{ }{% not mathjax
7
8 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
9 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
10
11 \renewcommand*\make@df@tag@@[1]{%
12   \LWR@remembertag{#1}%
13   \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*\make@df@tag@@@[1]{%
17   \LWR@remembertag{#1}%
18   \LWR@origmake@df@tag@@@{#1}%
19 }
20
21 }% not mathjax
```

For nesting  $\mathcal{M}\mathcal{S}$  environments:

```
22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}
```

The following  $\mathcal{M}\mathcal{S}$  environments are patched in-place:

`LWR@maxfields@` (*Ctr*) A copy of `maxfields@` as it was passed. This is used to generate the mandatory argument for `alignat` and `alignat*` when using `MATHJAX`.

```
24 \newcounter{LWR@maxfields@}
25
26 \xpatchcmd{\start@align}
```

```

27   {\maxfields@#3\relax}
28   {%
29       \maxfields@#3\relax%
30       \setcounter{LWR@maxfields@}{#3}%
31   }
32   {}
33   {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before`

\*  $\langle environment name \rangle$   
 \* if the environment was starred.  
 Embeds the environment inside a lateximage.

```

34 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
35   \IfBooleanTF{#1}{
36     \begin{BlockClass}{displaymath}
37   }{
38     \begin{BlockClass}{displaymathnumbered}
39   }
40   \LWR@newautoidanchor%
41   \booltrue{LWR@indisplaymathimage}%
42   \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*%
43   \LWR@applyxfakebold%
44 }

```

`\LWR@amsmathenv@before`

\*  $\langle environment name \rangle$   
 \* if the environment was starred.  
 Embeds the environment with MATHJAX or a lateximage.

```

45 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
46   \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
47     \LWR@stoppars%
48     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
49     {
50       \LWR@syncmathjax
51       \boolfalse{LWR@amsmultiline}
52       \ifstrequal{#2}{multiline}{\booltrue{LWR@amsmultiline}}{}
53       \ifstrequal{#2}{multiline*}{\booltrue{LWR@amsmultiline}}{}

```



autonom's "+" environments are not supported by MATHJAX.

```

54     \LWR@beginhideamsmath
55   }
56   {
57     \IfBooleanTF{#1}{
58       \LWR@amsmathenv@@before*{#2}
59     }{
60       \LWR@amsmathenv@@before{#2}
61     }
62   }
63 }{}
64 \addtocounter{LWR@amsmathdepth}{1}
65 }

```

`\LWR@amsmathenv@@after`

Embeds the environment inside a lateximage.

```

66 \newcommand*{\LWR@amsmathenv@@after}{%
67   \end{lateximage}\end{BlockClass}\LWR@startpars%

```

68 }

\LWR@amsmathenv@after

\*  $\langle environment\ name \rangle$ 

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or a lateximage.

```

69 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
70   \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
71     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
72     {
73       \LWR@endhideamsmath
74       \boolfalse{LWR@amsmultline}
75       \LWR@addmathjax{#2}{\the\@envbody}
76     }
77     {\LWR@amsmathenv@after}

```

Clear the single-use alt text:

```

78   \gdef\LWR@ThisAltText{%
79   }{}
80   \addtocounter{LWR@amsmathdepth}{-1}
81 }

```

multline (*env*)

```

82 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
83
84 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}

```

multline\* (*env*)

```

85 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
86
87 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
88

```

gather (*env*)

```

89 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
90
91 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}

```

gather\* (*env*)

```

92 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
93
94 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}

```

align (*env*)

```

95 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
96
97 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

align\* (*env*)

```

98 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
99
100 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```

`flalign` (*env.*)

```

101 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
102
103 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}

```

`flalign*` (*env.*)

```

104 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
105
106 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

`alignat` (*env.*)

```

107 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
108
109 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

`alignat*` (*env.*)

```

110 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
111
112 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

113 \AtBeginEnvironment{subequations}{
114   \renewcommand*\theMathJaxsubequations}{1}
115   \renewcommand*\theMathJaxsection}{\theparentequation}
116   \renewcommand*\theMathJaxequation}{\arabic{equation}}
117 }

```

For MATHJAX:

```

118 \begin{warpMathJax}
119 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
120 \CustomizeMathJax{\let\Hat\hat}
121 \CustomizeMathJax{\let\Check\check}
122 \CustomizeMathJax{\let\Tilde\tilde}
123 \CustomizeMathJax{\let\Acute\acute}
124 \CustomizeMathJax{\let\Grave\grave}
125 \CustomizeMathJax{\let\Dot\dot}
126 \CustomizeMathJax{\let\Ddot\ddot}
127 \CustomizeMathJax{\let\Breve\breve}
128 \CustomizeMathJax{\let\Bar\bar}
129 \CustomizeMathJax{\let\Vec\vec}
130 \end{warpMathJax}

```

---

File 22 **lwarp-amsthm.sty**

§ 131 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

`amsthm (Pkg)` `amsthm` is patched for use by `lwarp`.

---

Table 19: `amsthm` package — css styling of theorems and proofs

**Theorem:** `<div>` of class `amsthmbody<theoremstyle>`

**Theorem Name:** `<span>` of class `amsthmname<theoremstyle>`

**Theorem Number:** `<span>` of class `amsthmnumber<theoremstyle>`

**Theorem Note:** `<span>` of class `amsthmnote<theoremstyle>`

**Proof:** `<div>` of class `amsthmproof`

**Proof Name:** `<span>` of class `amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

---

for HTML output: `amsthm` must be loaded before `mdframed`:

```

1 \IfPackageLoadedTF{mdframed}{
2   \PackageError{lwarp}
3   {%
4     Package mdframed must be loaded after package amsthm.\MessageBreak
5     Enter 'H' for solutions%
6   }
7   {%
8     Move ‘\protect\usepackage{amsthm}’ before
9     ‘\protect\usepackage{mdframed}’.\MessageBreak
10    Package amsthm may be loaded by something else,\MessageBreak
11    which must also be moved before mdframed.%
12  }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}
16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19   \ifundefined{th@#1}{%
20     \PackageWarning{amsthm}{Unknown theoremstyle ‘#1’}%
21     \thm@style{plain}%
22     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23   }{%
24     \thm@style{#1}%
25     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26   }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \def\xnthm#1#2{%
29   \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30   \let\@tempa\relax
31   \exp\@ifdefinable\csname #2\endcsname{%
32     \global\exp\let\csname end#2\endcsname\endtheorem
33     \ifx *#1% unnumbered, need to get one more mandatory arg
34       \edef\@tempa##1{%
35         \gdef\exp\@nx\csname#2\endcsname{%
36           \@nx\@thm{\exp\@nx\csname th@the\thm@style\endcsname}%
37           }{##1}}%
38       \else % numbered theorem, need to check for optional arg
39         \def\@tempa{\@oparg{\ynthm{#2}}[[]]}%
40       \fi
41       \AtBeginEnvironment{#2}{%
42         \edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#2}}% lwarp
43       }% lwarp
44     }%
45   \@tempa%
46 }

```

Patched to enclose with css:

```

47 \newcommand{\LWR@haveamsthmname}{
48   \renewcommand{\thmname}[1]{%
49     \InlineClass{amsthmname\LWR@thismstyle}{##1}%
50   }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{
54   \renewcommand{\thmnumber}[1]{%
55     \InlineClass{amsthmnumber\LWR@thismstyle}{##1}%
56   }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{
60   \renewcommand{\thmnote}[1]{%
61     \InlineClass{amsthmnote\LWR@thismstyle}{##1}%
62   }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%

69   \GetTitleString{#3}% lwarp
70   \let\@currentlabelname\GetTitleStringResult% lwarp
71   \item[%

72   \LWR@newautopagelabel{page}\LWR@orignewline%

73 % \deferred@thm@head{
74 %   \the\thm@headfont \thm@indent

```



```

75 \@ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthmname}% lwarp
76 \@ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthmnumber}% lwarp
77 \@ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthmnote}% lwarp
78 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
79 \the\thm@headpunct % space
80 \thmheadnl % possibly a newline.
81 \hskip\thm@headsep
82 % }%
83 ]%
84 \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86 \ifhmode\unskip\unskip\par\fi
87 \normalfont
88 \LWR@forcenewpage% lwarp

89 \LWR@printpendingfootnotes% lwarp

90 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
91 \trivlist
92 \let\thmheadnl\relax
93 \let\thm@swap@gobble
94 \thm@notefont{\fontseries\mddefault\upshape}%
95 \thm@headpunct{.}% add period after heading
96 \thm@headsep 5\p@ plus\p@ minus\p@\relax
97 \thm@space@setup
98 #1% style overrides
99 \@topsep \thm@preskip % used by thm head
100 \@topsepadd \thm@postskip % used by \endparenv
101 \def\@tempa{#2}\ifx\@empty\@tempa
102 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
103 \else
104 \refstepcounter{#2}%
105 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
106 \fi
107 \@tempa%
108 }

```

cleveref patches \@thm to do \cref@thmoptarg if an optional argument is given.  
lwarp then patches \cref@thmoptarg \@AtBeginDocument.

```

109 \@AtBeginDocument{%
110 \def\cref@thmoptarg[#1]#2#3#4{%
111 \ifhmode\unskip\unskip\par\fi
112 \normalfont%
113 \LWR@forcenewpage% lwarp

114 \LWR@printpendingfootnotes% lwarp

115 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
116 \trivlist%
117 \let\thmheadnl\relax%
118 \let\thm@swap@gobble%
119 \thm@notefont{\fontseries\mddefault\upshape}%
120 \thm@headpunct{.}% add period after heading
121 \thm@headsep 5\p@ plus\p@ minus\p@\relax%

```

---

```

122   \thm@space@setup%
123   #2% style overrides
124   \@topsep \thm@preskip            % used by thm head
125   \@topsepadd \thm@postskip       % used by \endparenv
126   \def\@tempa{#3}\ifx\@empty\@tempa%
127     \def\@tempa{\@oparg{\@begintheorem{#4}{}}{}}{}}{[]}%
128   \else%
129     \refstepcounter{#1}{#3}% <<< cleveref modification
130     \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}{[]}%
131   \fi%
132   \@tempa
133 }%
134 }% AtBeginDocument
135
136 \def\@endtheorem{%
137   \endtrivlist%

138   \LWR@printpendingfootnotes%           lwarp

139   \endBlockClass%
140   \endpfalse%
141 }
```

Proof QED symbol:

```

142 \AtBeginDocument{
143 \@ifundefined{LWR@orig@openbox}{
144 \LetLtxMacro\LWR@orig@openbox\openbox
145 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
146 \LetLtxMacro\LWR@orig@Box\Box
147
148 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
149 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
150 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
151
152 \appto\LWR@restoreorigformatting{%
153   \LetLtxMacro\openbox\LWR@orig@openbox%
154   \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
155   \LetLtxMacro\Box\LWR@orig@Box%
156 }% \appto
157 }{ } \@ifundefined
158 }% AtBeginDocument
```

Patched to add a  $\langle \text{span} \rangle$ :

```

159 \DeclareRobustCommand{\qed}{%
160   \ifmmode \mathqed
161   \else
162     \leavevmode\unskip\penalty9999 \hbox{} \nobreak \hfill
163     \quad \hbox{\qedsymbol}%
164     \InlineClass{theoremendmark}{\qedsymbol}%   lwarp
165   \fi
166 }
```

Patched for css:

```

167 \renewenvironment{proof}[1][\proofname]{\par
168   \LWR@forcenewpage% lwarp
```

```

169 \LWR@printpendingfootnotes%                lwarp

170 \BlockClass{amsthmproof}% lwarp
171 \LWR@newautopagelabel{page}%
172 \pushQED{\qed}%
173 \normalfont \topsep6\p@\@plus6\p@\relax
174 \trivlist
175 \item[
176 \InlineClass{amsthmproofname}{#1\@addpunct{.}}\ignorespaces% changes
177 ]{%
178 \popQED\endtrivlist%

179 \LWR@printpendingfootnotes%                lwarp

180 \endBlockClass% lwarp
181 \@endpfalse
182 }

```

---

### File 23 **lwarp-anonchap.sty**

#### § 132 Package **anonchap**

*(Emulates or patches code by PETER WILSON.)*

anonchap (*Pkg*) anonchap is emulated.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

The code is shared by tocbibind.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3   \def\@chapcntformat##1{%
4     #1~\csname the##1\endcsname\simplechapterdelim\quad%
5   }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@seccntformat%
10 }

```

---

### File 24 **lwarp-anysize.sty**

#### § 133 Package **anysize**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

anysize (*Pkg*) anysize is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

```
2 \def\papersize#1#2{}
3 \def\marginwidth#1#2#3#4{}
```


---

## File 25 **lwarp-appendix.sty**

### § 134 Package **appendix**

*(Emulates or patches code by PETER WILSON.)*

`appendix` (*Pkg*) `appendix` is patched for use by `lwarp`.

 **incorrect TOC link** During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

**for HTML output:** 1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

```
2 \renewcommand*\@chap@pppage}{%
3 \part*\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*\@sec@pppage}{%
10 \part*\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

## File 26 **lwarp-ar.sty**

### § 135 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

`ar` (*Pkg*) `ar` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```
2 \newlength{\LWR@ar@width}
3
4 \newcommand*\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of `\AR`:

```
9 \newrobustcmd*\LWR@HTML@AR}{%
```

Start a hashed `lateximage`, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}
```

```
22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}
```

```
29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}
```

```
35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!|!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!|!R}}}
44 \end{warpMathJax}
```

File 27 **lwarp-arabicfront.sty**§ 136 Package **arabicfront**

arabicfront (*Pkg*) arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 28 **lwarp-array.sty**§ 137 Package **array**

array (*Pkg*) array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullfied macros:

```
1 \IfPackageLoadedTF{array}{%
2   \let\firsthline\relax
3   \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumnntype{w}[2]{#1}
8 \HTMLnewcolumnntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firsthline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firsthline}
11
12 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}
```

```
14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18   \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

File 29 **lwarp-arydshln.sty**

§ 138 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

`arydshln` (*Pkg*) `arydshln` heavily patches tabular code, so the actual package is not used. `arydshln` is emulated for `HTML` tabular, and reverts to solid rules for `SVG` math array and tabular in a `lateximage`.

`css` is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For `MATHJAX`, limited emulation is provided for math mode.

**for HTML output:** `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\ADLdrawingmode[1]{}
16 \newcommand*\ADLnoshorthanded{}
17 \newcommand*\dashgapcolor[2]{}
18 \newcommand*\nodashgapcolor{}
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hdashline{
```

```

25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 % {#1}%
36 % {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 % ]}}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0='{ \fi}%
41 % \multispan{\adl@columns}\unskip \adl@hline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule \@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 \ifx\@tempa\hdashline \adl@ixhline\fi
50 \ifnum0='{ \fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{ \fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 30 **lwarp-asymptote.sty**

§ 139 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)



asymptote (*Pkg*) asymptote is patched for use by lwarp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3   \begin{lateximage}[-asymptote-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8   {\begingroup}
9   {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]}
10  {}
11  {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14   {\endgroup}
15   {\end{lateximage}}
16   {}
17   {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

### File 31 **lwarp-atbegshi.sty**

## § 140 Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

atbegshi (*Pkg*) atbegshi is ignored.

**for HTML output:** Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]
2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
```

```

8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard{}
18 \newcommand*\AtBeginShipoutInit{}
19 \newcommand*\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

File 32 **lwarp-attachfile.sty**

§ 141 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

attachfile (*Pkg*) attachfile is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*\LWR@attachfile@icon}
3 {
4   \begin{lateximage}*%
5     [-attachfile-]%
6     [%
7       \detokenize\expandafter{\atfi@icon@icon}-%
8       \detokenize\expandafter{\atfi@color@rgb}%
9     ]%
10 }
11 {
12   \end{lateximage}
13 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}

```

```

22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29   \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32   \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }

```

---

### File 33 **lwarp-attachfile2.sty**

## § 142 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`attachfile2 (Pkg)` `attachfile2` is patched for use by `lwarp`.



Metadata is ignored for now.

**for HTML output:** `1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]`

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5   \def\LWR@attachfiletwo@color{#1}%   lwarp
6   \HyColor@AttachfileColor{#1}%
7   \atfi@color@tex\atfi@color@inline\atfi@color@annot
8   {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}
11 {
12   \begin{lateximage}*%
13     [-attachfile-]%
14     [%
15       \detokenize\expandafter{\atfi@icon@icon}-%
16       \detokenize\expandafter{\LWR@attachfiletwo@color}%
17     ]%
18 }

```

```

19 {
20   \end{lateximage}
21 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37   \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41   \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44   \LWR@href{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47   \begingroup
48     \atfi@setup{#1}%
49     \ifatfi@print
50     \leavevmode
51     \begingroup
52       \HyColor@UseColor\atfi@color@tex
53       \LWR@textcurrentcolor{#2}%      lwarp
54 % \strut
55     \endgroup
56 %   \else
57 %     \sbox\ltx@zero{#2\strut}%
58 %     \makebox[\wd0]{}%
59   \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][]{%
63   \begingroup
64     \atfi@setup{#1}%
65     \atfi@set@appearance@icon
66     \ifatfi@print
67     \LWR@attachfile@appearance%   lwarp
68 %   \expandafter
69 %     \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
70 %   \else
71 %     \makebox[\atfi@appearancewidth]{%
72     \fi
73   \endgroup
74 }

```

File 34 **lwarp-authblk.sty**

§ 143 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

`authblk (Pkg)` `authblk` is patched for HTML.

**package support** `lwarp` supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

 **load order**

**\published and \subtitle** If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:** Require that `authblk` be loaded before `titling`:

```

1 \IfPackageLoadedTF{titling}{
2   \PackageError{lwarp-authblk}
3     {Package authblk must be loaded before titling}
4     {%
5       Titling appends authblk's author macro,
6       so authblk must be loaded first.%
7     }
8 }
9 {\relax}

```

Load `authblk`:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an `\authorcr`:

---

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

File 35 **lwarp-autobreak.sty**

§ 144 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

`autobreak (Pkg)` `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** `1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]`

For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)


```
2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}
```

---

File 36 **lwarp-autonum.sty**

§ 145 Package **autonum**

`autonum (Pkg)` `autonum` is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]`

```
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}
```

```

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}{\endsplit}

```

---

File 37 **lwarp-awesomebox.sty**

§ 146 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

awesomebox (*Pkg*) awesomebox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{%
6   border-top: 1px solid black ;
7   border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { 0{abvrulecolor} 0{ } o m m m +m }{%
12   \begin{awesomeblock}[#1][#2][#3][#4][#5][#6]
13     #7
14   \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ 0{abvrulecolor} 0{ } o m m m }
21 {%
22   \LWR@forceminwidth[#4]%
23   \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24   \renewcommand*{\LWR@awesomebox@boxborders}{}%
25   \renewcommand*{\LWR@awesomebox@contentsborders}{}%

```

```

26 \ifdefstrequal{\abShortLine}{#2}{%
27   \renewcommand*\LWR@awesomebox@contentsborders}{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstrequal{\abLongLine}{#2}{%
30   \renewcommand*\LWR@awesomebox@boxborders}{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34   margin-left: 2\% ;
35   vertical-align: top
36 ]{minipage}
37   \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40   width:75\% ;
41   vertical-align: top ;
42   padding-left: 1em ;
43   \LWR@awesomebox@contentsborders ;
44   border-left: \LWR@printlength{\LWR@atleastonept} %
45     solid \LWR@origpound\LWR@tempcolor%
46 ]{minipage}
47   \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50   \end{BlockClass}
51   \end{BlockClass}
52 }

```

---

File 38 **lwarp-axessibility.sty**

§ 147 Package **axessibility**

`axessibility (pkg)` `axessibility` is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘axessibility’.%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7   \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11   \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17   \RequirePackage{tagpdf}
18 \else
19   \RequirePackage{accsupp}
20 \fi
21 \long\def\wrap#1{}
22 \long\def\wrapm#1{}

```



```
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}
```

For MATHJAX. These usually will not be needed.

```
25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}
```

### File 39 **lwarp-axodraw2.sty**

## § 148 Package **axodraw2**

*(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)*

axodraw2 (*Pkg*) axodraw2 is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]
2 \BeforeBeginEnvironment{axopicture}{%
3   \begin{lateximage}[-axopicture-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

### File 40 **lwarp-backnaur.sty**

## § 149 Package **backnaur**

*(Emulates or patches code by ADRIAN P. ROBSON.)*

backnaur (*Pkg*) backnaur is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]
2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnf}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9   \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12   \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }
```

```

14     \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15   }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{backnaur}{altpo}{
25   \CustomizeMathJax{\newcommand{\bnfpo}{:=}}
26 }{
27   \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{& & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```


---

#### File 41 **lwarp-backref.sty**

### § 150 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

`backref` (*Pkg*) `backref` is patched for use by `lwarp`.

 **loading** Note that `backref` must be explicitly loaded, and is not automatically loaded by `hyperref` when generating HTML output.

**for HTML output:** `1 \LWR@ProvidesPackagePass{backref}[2016/05/21]`

Force the `hyperref` option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5   \LWR@refwithsection{#3}%
6 }
7
8 \let\backrefxx\hyper@section@backref

```

---

#### File 42 **lwarp-balance.sty**

### § 151 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

`balance` (*Pkg*) `balance` is ignored.

**for HTML output:**

Discard all options for `lwarp-balance`:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 43 **lwarp-bbding.sty**

§ 152 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

`bbding` (*Pkg*) `bbding` is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045} {2717}}

```

42	\newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}	{2719}}
43	\newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}	{271A}}
44	\newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}	{271C}}
45	\newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}	{271B}}
46	\newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}	{271D}}
47	\newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}	{271E}}
48	\newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}	{271F}}
49	\newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}	{271F}}
50	\newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}	{2720}}
51	\newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}	{2721}}
52	\newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}	{2721}}
53	\newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}	{2722}}
54	\newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}	{2723}}
55	\newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}	{2724}}
56	\newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}	{2725}}
57	\newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}	{2726}}
58	\newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}	{2727}}
59	\newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}	{2729}}
60	\newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}	{2605}}
61	\newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}	{2729}}
62	\newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}	{272A}}
63	\newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}	{272B}}
64	\newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}	{272C}}
65	\newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}	{272D}}
66	\newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}	{272E}}
67	\newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}	{272F}}
68	\newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}	{2730}}
69	\newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}	{2731}}
70	\newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}	{2732}}
71	\newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}	{273B}}
72	\newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}}	{273C}}
73	\newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}	{2733}}
74	\newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}	{2735}}
75	\newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}	{2736}}
76	\newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}	{2737}}
77	\newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}	{2738}}
78	\newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}	{2739}}
79	\newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}	{273A}}
80	\newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}	{273B}}
81	\newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}	{273C}}
82	\newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}	{273D}}
83	\newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}	{273E}}
84	\newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}	{273F}}
85	\newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}	{2740}}
86	\newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}	{2740}}
87	\newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}	{2741}}
88	\newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}}	{2742}}
89	\newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}}	{2743}}
90	\newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}}	{273F}}
91	\newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}}	{273F}}
92	\newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}}	{2749}}
93	\newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}}	{274A}}
94	\newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}}	{274B}}
95	\newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}}	{2740}}
96	\newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}}	{2748}}
97	\newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}}	{2747}}
98	\newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}}	{2744}}
99	\newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}}	{2746}}
100	\newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}}	{2744}}
101	\newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}}	{25CF}}

102 \newcommand{\LWR@HTML@Ellipse}\LWR@bbdingsymbol{142} {274D}}  
 103 \newcommand{\LWR@HTML@EllipseSolid}\LWR@bbdingsymbol{143} {25CF}}  
 104 \newcommand{\LWR@HTML@CircleShadow}\LWR@bbdingsymbol{144} {274D}}  
 105 \newcommand{\LWR@HTML@EllipseShadow}\LWR@bbdingsymbol{145} {274D}}  
 106 \newcommand{\LWR@HTML@Square}\LWR@bbdingsymbol{146} {25A1}}  
 107 \newcommand{\LWR@HTML@SquareSolid}\LWR@bbdingsymbol{147} {25A0}}  
 108 \newcommand{\LWR@HTML@SquareShadowBottomRight}\LWR@bbdingsymbol{150} {2751}}  
 109 \newcommand{\LWR@HTML@SquareShadowTopRight}\LWR@bbdingsymbol{151} {2752}}  
 110 \newcommand{\LWR@HTML@SquareShadowTopLeft}\LWR@bbdingsymbol{152} {2752}}  
 111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}\LWR@bbdingsymbol{153} {2751}}  
 112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}\LWR@bbdingsymbol{154} {2752}}  
 113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}\LWR@bbdingsymbol{155} {2752}}  
 114 \newcommand{\LWR@HTML@TriangleUp}\LWR@bbdingsymbol{156} {25B2}}  
 115 \newcommand{\LWR@HTML@TriangleDown}\LWR@bbdingsymbol{157} {25BC}}  
 116 \newcommand{\LWR@HTML@DiamondSolid}\LWR@bbdingsymbol{160} {25C6}}  
 117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}\LWR@bbdingsymbol{161} {2756}}  
 118 \newcommand{\LWR@HTML@HalfCircleRight}\LWR@bbdingsymbol{162} {25D7}}  
 119 \newcommand{\LWR@HTML@HalfCircleLeft}\LWR@bbdingsymbol{163} {25D6}}  
 120 \newcommand{\LWR@HTML@RectangleThin}\LWR@bbdingsymbol{164} {2758}}  
 121 \newcommand{\LWR@HTML@Rectangle}\LWR@bbdingsymbol{165} {2759}}  
 122 \newcommand{\LWR@HTML@RectangleBold}\LWR@bbdingsymbol{166} {275A}}  
 123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}\LWR@bbdingsymbol{167} {27A0}}  
 124 \newcommand{\LWR@HTML@ArrowBoldUpRight}\LWR@bbdingsymbol{170} {27A6}}  
 125 \newcommand{\LWR@HTML@ArrowBoldDownRight}\LWR@bbdingsymbol{171} {27A5}}  
 126 \newcommand{\LWR@HTML@ArrowBoldRightShort}\LWR@bbdingsymbol{172} {27A7}}  
 127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}\LWR@bbdingsymbol{173} {27B2}}  
 128  
 129  
 130 \LWR@formatted{ScissorRightBrokenBottom}  
 131 \LWR@formatted{ScissorRight}  
 132 \LWR@formatted{ScissorRightBrokenTop}  
 133 \LWR@formatted{ScissorLeftBrokenBottom}  
 134 \LWR@formatted{ScissorLeft}  
 135 \LWR@formatted{ScissorLeftBrokenTop}  
 136 \LWR@formatted{ScissorHollowRight}  
 137 \LWR@formatted{ScissorHollowLeft}  
 138 \LWR@formatted{Phone}  
 139 \LWR@formatted{PhoneHandset}  
 140 \LWR@formatted{Tape}  
 141 \LWR@formatted{Plane}  
 142 \LWR@formatted{Envelope}  
 143 \LWR@formatted{HandCuffRight}  
 144 \LWR@formatted{HandCuffLeft}  
 145 \LWR@formatted{HandCuffRightUp}  
 146 \LWR@formatted{HandCuffLeftUp}  
 147 \LWR@formatted{HandRight}  
 148 \LWR@formatted{HandLeft}  
 149 \LWR@formatted{HandRightUp}  
 150 \LWR@formatted{HandLeftUp}  
 151 \LWR@formatted{Peace}  
 152 \LWR@formatted{HandPencilLeft}  
 153 \LWR@formatted{PencilRight}  
 154 \LWR@formatted{PencilLeft}  
 155 \LWR@formatted{PencilRightUp}  
 156 \LWR@formatted{PencilLeftUp}  
 157 \LWR@formatted{PencilRightDown}  
 158 \LWR@formatted{PencilLeftDown}  
 159 \LWR@formatted{NibRight}  
 160 \LWR@formatted{NibLeft}  
 161 \LWR@formatted{NibSolidRight}

162 \LWR@formatted{NibSolidLeft}  
163 \LWR@formatted{Checkmark}  
164 \LWR@formatted{CheckmarkBold}  
165 \LWR@formatted{XSolid}  
166 \LWR@formatted{XSolidBold}  
167 \LWR@formatted{XSolidBrush}  
168 \LWR@formatted{PlusOutline}  
169 \LWR@formatted{Plus}  
170 \LWR@formatted{PlusCenterOpen}  
171 \LWR@formatted{PlusThinCenterOpen}  
172 \LWR@formatted{Cross}  
173 \LWR@formatted{CrossOpenShadow}  
174 \LWR@formatted{CrossOutline}  
175 \LWR@formatted{CrossBoldOutline}  
176 \LWR@formatted{CrossMaltese}  
177 \LWR@formatted{DavidStarSolid}  
178 \LWR@formatted{DavidStar}  
179 \LWR@formatted{FourAsterisk}  
180 \LWR@formatted{JackStar}  
181 \LWR@formatted{JackStarBold}  
182 \LWR@formatted{CrossClowerTips}  
183 \LWR@formatted{FourStar}  
184 \LWR@formatted{FourStarOpen}  
185 \LWR@formatted{FiveStarLines}  
186 \LWR@formatted{FiveStar}  
187 \LWR@formatted{FiveStarOpen}  
188 \LWR@formatted{FiveStarOpenCircled}  
189 \LWR@formatted{FiveStarCenterOpen}  
190 \LWR@formatted{FiveStarOpenDotted}  
191 \LWR@formatted{FiveStarOutline}  
192 \LWR@formatted{FiveStarOutlineHeavy}  
193 \LWR@formatted{FiveStarConvex}  
194 \LWR@formatted{FiveStarShadow}  
195 \LWR@formatted{AsteriskBold}  
196 \LWR@formatted{AsteriskCenterOpen}  
197 \LWR@formatted{AsteriskThin}  
198 \LWR@formatted{AsteriskThinCenterOpen}  
199 \LWR@formatted{EightStarTaper}  
200 \LWR@formatted{EightStarConvex}  
201 \LWR@formatted{SixStar}  
202 \LWR@formatted{EightStar}  
203 \LWR@formatted{EightStarBold}  
204 \LWR@formatted{TwelveStar}  
205 \LWR@formatted{SixteenStarLight}  
206 \LWR@formatted{SixFlowerPetalRemoved}  
207 \LWR@formatted{SixFlowerOpenCenter}  
208 \LWR@formatted{Asterisk}  
209 \LWR@formatted{SixFlowerAlternate}  
210 \LWR@formatted{FiveFlowerPetal}  
211 \LWR@formatted{SixFlowerPetalDotted}  
212 \LWR@formatted{FiveFlowerOpen}  
213 \LWR@formatted{EightFlowerPetal}  
214 \LWR@formatted{SunshineOpenCircled}  
215 \LWR@formatted{SixFlowerAltPetal}  
216 \LWR@formatted{FourClowerOpen}  
217 \LWR@formatted{FourClowerSolid}  
218 \LWR@formatted{AsteriskRoundedEnds}  
219 \LWR@formatted{EightFlowerPetalRemoved}  
220 \LWR@formatted{EightAsterisk}  
221 \LWR@formatted{SixFlowerRemovedOpenPetal}

```

222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 44 **lwarp-beamerarticle.sty**

§ 153 Package **beamerarticle**

*(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)*

beamerarticle (*Pkg*) **beamerarticle** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]

2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7   \only#1{%
8     \beameroriginal{\LWR@listitem}%
9   }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13   \only#1{%
14     \beameroriginal{\LWR@itemizeitem}%
15   }%

```

```

16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19   \only#1{%
20     \beameroriginal{\LWR@descitem}%
21   }%
22 }
23
24 \renewcommand<>{\abstract}{%
25   \only#1{%
26     \beameroriginal{\abstract}%
27   }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31   \only#1{%
32     \beameroriginal{\LWR@includegraphicsb}%
33   }%
34 }
35
36 \xpretocmd\frame
37   {
38     \LWR@forcenewpage
39     \BlockClass{beamerframe}%
40   }
41   {}
42   {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe
45   {\endBlockClass}
46   {}
47   {\LWR@patcherror{beamerarticle}{beamer@endframe}}

```

An example in the beamer docs for `\includegraphics` shows the use of `\lap` in a frame.

```

48 \xpretocmd\beamer@article@startframe
49   {\LWR@nulllistfills}
50   {}
51   {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
52
53 }% AtBeginDocument
54
55 \let\beamer@tmpop@frametitle@default\relax
56 \defbeamer@template<article>*{frametitle}{default}{%
57   \paragraph*{\insertframetitle}\ \par%
58   \ifdefempty{\insertframesubtitle}{\LWR@patcherror{beamerarticle}{framesubtitle}}{%
59     \noindent\emph{\insertframesubtitle}\par%
60   }%
61 }
62
63
64 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
65   \LWR@itemizestart\LWR@origitemize%
66 }%
67 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
68   \LWR@descriptionstart\LWR@origdescription%
69 }%
70
71 \xapptocmd{\LWR@patchlists}

```



```

72   {%
73       \LetLtxMacro\itemize\LWR@beamer@itemize%
74       \LetLtxMacro\description\LWR@beamer@description%
75   }
76   {}
77   {\LWR@patcherror{beamerarticle}{LWR@patchlists}}
78
79
80 \LetLtxMacro\maketitle\LWR@maketitle
81
82 \renewcommand{\subtitle}[2][{}{
83     \gdef\@subtitle{#2}
84     \def\insertsubtitle{#2}
85 }

```

Add subtitle if not already present:

```

86 \AtBeginDocument{
87 \IfPackageLoadedTF{lwarp-scrextend}
88   {% komascript already has subtitle
89   {% not komascript
90       \xpatchcmd{\@maketitle}
91           {%
92               \LWR@htmltag{\LWR@tagtitleend}%
93               \LWR@startpars%
94           }%
95           {%
96               \LWR@htmltag{\LWR@tagtitleend}%
97               \ifdefvoid{\@subtitle}{}%
98               \begin{BlockClass}{subtitle}%
99               \@subtitle%
100              \end{BlockClass}%
101              }%
102              \LWR@startpars%
103          }%
104          {}
105          {\LWR@patcherror{beamerarticle}{@maketitle}}
106      }% not komascript
107 }
108
109 \RequirePackage{fancyvrb}
110 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}

```

---

File 45 **lwarp-biblatex.sty**

§ 154 Package **biblatex**

(Emulates or patches code by PHILIPP LEHMAN.)

`biblatex` (*Pkg*) When `biblatex` is used, modifications from `newfloat` may have to be undone.

**for HTML output:**

1. `lwarp` uses `newfloat`.
2. For classes with chapters which `newfloat` does not know about, such as C<sub>T</sub>E<sub>X</sub>-related classes, `newfloat` may modify `\addtocontents`.

3. `biblatex`, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since `biblatex` is about to be loaded.
5. This means that the `newfloat`'s `chapterlistsgaps` option may no longer work.

```

1 \ifdef{\newfloat@addtocontents@ORI}{
2   \let\addtocontents\newfloat@addtocontents@ORI
3 }{}

```

`hyperref` emulation is loaded `\AtBeginDocument` to avoid an options clash.

```

4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]

```

The following create hyperlinks to the references. The original code to use `hyperref` is recreated here, because `hyperref` is emulated.

```

7 \AfterPreamble{
8
9 \let\blx@anchors\@empty
10 \protected\def\blx@anchor{%
11   \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12     {}
13     {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14       \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}}
15
16 \protected\def\blx@imc@bibhyperref{%
17   \ifnextchar[%
18     {\blx@bibhyperref}
19     {\blx@bibhyperref[\abx@field@entrykey]}}%
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 %   \blx@sfsave
23   \hyperlink{cite.\the\c@refsection @#1}{%
24 %   \blx@sffrest
25     #2%
26 %   \blx@sfsave
27   }%
28 % \blx@sffrest%
29 }%% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 %   \blx@sfsave
33   \hyperlink{cite.\the\c@refsection:#1}{%
34 %   \blx@sffrest
35     #2%
36 %   \blx@sfsave
37   }%
38 %   \blx@sffrest%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 %   \blx@sfsave%
43   \hypertarget{cite.\the\c@refsection:#1}{%

```

```

44 %      \blx@sfrest
45      #2%
46 %      \blx@sfsave%
47      }%
48 %      \blx@sfrest%
49 }
50
51 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a  $\LaTeX$  box.

```

52 \xpretocmd{\blx@citecmdinit}
53   {\LWR@newautopagelabel{page}}%
54   {}
55   {\LWR@patcherror{biblatex}{blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

56 \xpatchcmd{\blx@addbackref@i}
57   {\thepage}
58   {\theLWR@previousautopagelabel}% ref to the most recent object
59   {}
60   {\LWR@patcherror{biblatex}{blx@addbackref@i A}}
61
62 \xpatchcmd{\blx@addbackref@i}
63   {\c@page}
64   {\c@LWR@previousautopagelabel}% ref to the most recent object
65   {}
66   {\LWR@patcherror{biblatex}{blx@addbackref@i B}}

```

The following patches are for back page references.

```

67 \DeclareListFormat{pageref}{%
68   \ifnumless{\abx@pagerefstyle}{0}
69     {\usebibmacro{list:plain}%
70     \ifhyperref
71       {%
72 %           \hyperlink{page.#1}{#1}%
73           \LWR@refwithsection{\BaseJobname-autopage-#1}% lwarp
74       }
75     {#1}}
76   {\ifnumequal{\value{listcount}}{1}
77     {\usebibmacro{pageref:init}}
78     {}%
79     \usebibmacro{pageref:comp}{#1}%
80     \ifnumequal{\value{listcount}}{\value{liststop}}
81       {\usebibmacro{pageref:dump}}
82       {}}}
83
84 \renewbibmacro*{pageref:comp}[1]{%
85   \numdef\abx@range@prev{\abx@range@prev+1}%
86   \ifinteger{#1}
87     {\def\abx@range@num{#1}%
88     \def\abx@range@this{1}%
89     \ifnumequal{\abx@range@this}{\abx@range@last}
90       {}
91       {\def\abx@range@prev{-1}}}

```

```

92     {\ifrmnum{#1}
93       {\numdef\abx@range@num{\rmntonum{#1}}%
94       \def\abx@range@this{2}%
95       \ifnumequal{\abx@range@this}{\abx@range@last}
96         {}
97       {\def\abx@range@prev{-1}}}
98     {\undef\abx@range@num
99     \def\abx@range@this{0}%
100    \def\abx@range@prev{-1}}}%
101 \ifdef\abx@range@num
102   {\ifnumequal{\abx@range@num}{\abx@range@prev}
103     {\def\abx@range@hold{#1}%
104     \numdef\abx@range@diff{\abx@range@diff+1}}
105     {\usebibmacro{pageref:dump}%
106     \ifnumgreater{\abx@range@last}{-1}
107       {\printdelim{multilistdelim}}
108       {}%
109     \ifhyperref
110 %       {\hyperlink{page.#1}{#1}}
111       {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
112       {#1}}%
113   \edef\abx@range@prev{\abx@range@num}}
114 {\usebibmacro{pageref:dump}%
115 \ifnumgreater{\abx@range@last}{-1}
116   {\printdelim{multilistdelim}}
117   {}%
118 \ifhyperref
119 %   {\hyperlink{page.#1}{#1}}
120   {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
121   {#1}}%
122 \def\abx@range@prev{-1}}%
123 \edef\abx@range@last{\abx@range@this}
124
125 \renewbibmacro*{pageref:dump}{%
126 \ifnumgreater{\abx@range@diff}{0}
127   {\ifcase\abx@pagerefstyle\relax % two
128     \bibrangedash
129     \ifhyperref
130 %       {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
131       {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132       {\abx@range@hold}%
133     \or % three
134       \ifnumless{\abx@range@diff}{2}
135         {\printdelim{multilistdelim}}
136         {\bibrangedash}%
137       \ifhyperref
138 %       {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
139       {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
140       {\abx@range@hold}%
141     \or % two+
142       \ifnumless{\abx@range@diff}{2}
143         {\sqspace
144         \ifhyperref
145 %       {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
146       {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147       {\bibstring{sequens}}}
148       {\bibrangedash
149       \ifhyperref
150 %     {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
151     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp

```

```

152         {\abx@range@hold}}%
153     \or % three+
154     \ifnumless{\abx@range@diff}{2}
155         {\sqspace
156         \ifhyperref
157 %         {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
158     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159     {\bibstring{sequens}}}
160     {\ifnumless{\abx@range@diff}{3}
161     {\sqspace
162     \ifhyperref
163 %     {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
164     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
165     {\bibstring{sequentes}}}
166     {\bibrangedash
167     \ifhyperref
168 %     {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
169     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
170     {\abx@range@hold}}}%
171 \else % all+
172     \ifnumless{\abx@range@diff}{2}
173         {\sqspace
174         \ifhyperref
175 %         {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
176     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177     {\bibstring{sequens}}}
178     {\sqspace
179     \ifhyperref
180 %     {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
181     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
182     {\bibstring{sequentes}}}%
183     \fi
184     \def\abx@range@diff{0}}
185 {}
186
187 }% \AfterPreamble

```

---

File 46 **lwarp-bibunits.sty**

§ 155 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

`bibunits (Pkg)` `bibunits` is patched for use by `lwarp`.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{bibunits}[2004/05/12]`

2 `\def\bu@bibdata{\BaseJobname}`

---


File 47 **lwarp-bigdelim.sty**

§ 156 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

`bigdelim` (*Pkg*) `bigdelim` is used as-is for print or `lateximage`, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default CSS sets this to `font-size:200%`

 **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

---

For `MATHJAX`, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:** First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```

1 \let\ldelim\relax
2 \let\rdelim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]

```

```

\ldelim  {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} [\langle 3: vmove \rangle] {\langle 4:width \rangle} [\langle 5:text \rangle]
\rdelim

```

```

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}

```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```

17 \begin{warpMathJax}
18 % \ldelim ( {n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][]{\text{#1}~\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][]{\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}
22 % \rdelim ) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][]{\LWRbigdelim~\text{#1}}}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][]{\LWRrdelimtwo}}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}

```

---

File 48 **lwarp-bigfoot.sty**

§ 157 Package **bigfoot**

bigfoot (*Pkg*) bigfoot is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 49 **lwarp-bigstrut.sty**

§ 158 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

bigstrut (*Pkg*) bigstrut is used as-is for print or lateximage, and patched for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%

```

```

8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][{}]}
12 \end{warpMathJax}

```

---

File 50 **lwarp-bitpattern.sty**

§ 159 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

bitpattern (*Pkg*) **bitpattern** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{lateximage}[-bitpattern~\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{lateximage}}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 51 **lwarp-blowup.sty**

§ 160 Package **blowup**

blowup (*Pkg*) **blowup** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```

2 \newcommand*\blowUp[1]{}

```

---

File 52 **lwarp-bm.sty**

§ 161 Package **bm**

*(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)*

bm (*Pkg*) **bm** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]



`\DeclareBoldMathCommand` must only be used in the preamble, since it adds to the MATHJAX setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6   \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7   \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 53 **lwarp-booklet.sty**

§ 162 Package **booklet**

*(Emulates or patches code by PETER WILSON.)*

`booklet (Pkg)` **booklet** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pageseplength
3 \newdimen\pagesewidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target}[3]{}
11 \newcommand*\source}[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 54 **lwarp-bookmark.sty**

§ 163 Package **bookmark**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`bookmark (Pkg)` **bookmark** is ignored.

**for HTML output:** Discard all options for `lwarp-bookmark`:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

```

```

2 \newcommand*\bookmarksetup}[1]{}
3 \newcommand*\bookmarksetupnext}[1]{}
4 \newcommand*\bookmark}[2][1]{}
5 \newcommand*\bookmarkdefinestyle}[2]{}
6 \newcommand*\bookmarkget}[1]{}
7 \newcommand\BookmarkAtEnd}[1]{}

```


---

File 55 **lwarp-booktabs.sty**

§ 164 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

`booktabs` (*Pkg*) `booktabs` is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

 `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

**for HTML output:** If `booktabs` has already been loaded before `lwarp`, such as by `memoir`, use it as-is. If not, the `lwarp` core will have placed some dummy macros which should be removed before loading the actual `booktabs` definitions.

```

1 \IfPackageLoadedTF{booktabs}{}{
2   \LetLtxMacro\toprule\relax
3   \LetLtxMacro\midrule\relax
4   \LetLtxMacro\cmidrule\cline
5   \LetLtxMacro\bottomrule\relax
6   \LetLtxMacro\addlinespace\relax
7   \LetLtxMacro\morecmidrules\relax
8   \LetLtxMacro\specialrule\relax
9 }

```

Next, load the `booktabs` package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if `xltabular` is loaded:

```

11 % \def\LWR@HTML@@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16   {%
17     \IfValueTF{#1}%
18       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19     {%
20       \ifbool{FormatWP}%
21         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22         {\booltrue{LWR@doingtbrule}}}%
23     }%
24   \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}

```

```

27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29   {%
30     \IfValueTF{#1}%
31       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32     {%
33       \ifbool{FormatWP}%
34         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35         {\defaddtocounter{LWR@hlines}{1}}}%
36     }%
37   \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42   \LWR@docmidrule[#1](#2){#3}%
43   \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49   \IfValueTF{#1}%
50     {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51     {%
52       \ifbool{FormatWP}%
53         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54         {\booltrue{LWR@doingtbrule}}}%
55     }%
56   \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70   {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

#### For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidruilenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][{}]{%
80   \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidruilenoparen%
81 }}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}

```

---

```
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}
```

---

File 56 **lwarp-bophook.sty**

§ 165 Package **bophook**

bophook (*Pkg*) bophook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```
2 \newcommand*\AtBeginPage[1]{}
3 \newcommand*\PageLayout[1]{}

```

---

File 57 **lwarp-bounddvi.sty**

§ 166 Package **bounddvi**

bounddvi (*Pkg*) bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 58 **lwarp-boxedminipage.sty**

§ 167 Package **boxedminipage**

*(Emulates or patches code by SCOTT PAKIN.)*

boxedminipage (*Pkg*) boxedminipage is emulated for HTML, and used as-is for lateximages.

**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```
2 \newenvironment{LWR@HTML@boxedminipage}{%
3   \LWR@stoppars%
4   \begin{BlockClass}{framebox}%
5   \minipage%
6 }
7 {%
8   \endminipage%
9   \end{BlockClass}%
10  \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}
```

---

File 59 **lwarp-boxedminipage2e.sty**

§ 168 Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

boxedminipage2e (*Pkg*) **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:** Automatically loads **boxedminipage**:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 60 **lwarp-braket.sty**

§ 169 Package **braket**

(Emulates or patches code by DONALD ARSENEAU.)

**braket** (*Pkg*) **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3   \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}
```

---

File 61 **lwarp-breakurl.sty**

§ 170 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

**breakurl** (*Pkg*) **breakurl** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```
2 \LetLtxMacro\bur\LWR@url
3
4 \NewDocumentCommand{\LWR@bur\altb}{0{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%
7   \LWR@subhyperref\text{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\bur\alt}{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@bur\altb%
15 }
16
17 \LetLtxMacro\ur\alt\bur\alt
```


---

File 62 **lwarp-breqn.sty**

§ 171 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

`breqn` (*Pkg*) `breqn` is patched for use by `lwarp`.

 `darray` `darray` is not supported, and in fact does not work in the print version either.

While using `MATHJAX`, `breqn` objects are converted to `svg` images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]
2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5% \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8   \begin{BlockClass}{displaymathnumbered}
9   \LWR@newautoidanchor%
10  \booltrue{LWR@indisplaymathimage}%
11  \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15   \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19   \begin{BlockClass}{displaymath}
20   \LWR@newautoidanchor%
21   \booltrue{LWR@indisplaymathimage}%
22   \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}{
26   \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30   \begin{BlockClass}{displaymathnumbered}
31   \LWR@newautoidanchor%
32   \booltrue{LWR@indisplaymathimage}%
33   \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37   \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41   \begin{BlockClass}{displaymath}
42   \LWR@newautoidanchor%
43   \booltrue{LWR@indisplaymathimage}%
44   \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48   \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52   \begin{BlockClass}{displaymath}
53   \LWR@newautoidanchor%
```

```

54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 63 **lwarp-bsheaders.sty**

§ 172 Package **bsheaders**

bsheaders (*Pkg*) **bsheaders** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]


---

File 64 **lwarp-bussproofs.sty**

§ 173 Package **bussproofs**

*(Emulates or patches code by SAMUEL R. BUSS.)*

bussproofs (*Pkg*) **bussproofs** is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{% SVG HTML
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]%
12 }
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }

```

File 65 **lwarp-bxpapersize.sty**§ 174 Package **bxpapersize**

`bxpapersize` (*Pkg*) `bxpapersize` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

File 66 **lwarp-bytefield.sty**§ 175 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

`bytefield` (*Pkg*) `bytefield` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

```
2 \BeforeBeginEnvironment{bytefield}{%
3   \begin{lateximage}[-bytefield-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

File 67 **lwarp-cancel.sty**§ 176 Package **cancel**

`cancel` (*Pkg*) `cancel` is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:** 1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec  
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

`\cancelto` is math-only, so is used as-is.

`\LWR@cancelcolor`

```
{\langle text \rangle} {\langle color \rangle} {\langle class \rangle} {\langle colorstyle \rangle} {\langle FormatWPstyle \rangle}
```

Add colors if not empty:

```
3 \newcommand{\LWR@cancelcolor}[5]{%
4   \ifcsempy{#2}%
5   {\InlineClass{#5}{#3}{#1}}%
6   {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
7 }
```



`\cancel`

```

{\text}}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%
9 \begingroup%
10 \CancelColor%
11 \LWR@findcurrenttextcolor%
12 \color{black}%
13 \LWR@cancelcolor{#1}{LWR@tempcolor}{sout}{text-decoration-color}%
14   {text-decoration:line-through}%
15 \endgroup%
16 }
17 \LWR@formatted{cancel}%
18
19 \LetLtxMacro\bcancel\cancel
20 \LetLtxMacro\xcancel\cancel

For MATHJAX:

21 \begin{warpMathJax}
22 \PackageNoteNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}

```

---

File 68 **lwarp-canonlayout.sty**

§ 177 Package **canoniclayout**

canoniclayout (*Pkg*) canoniclayout is ignored.

**for HTML output:** § \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*\currentfontletters{}
3 \newcommand*\charactersperpage{}

```

---

File 69 **lwarp-caption.sty**

§ 178 Package **caption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

caption (*Pkg*) caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘Missing \protect\begin\protect{document\protect}’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5   \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

10 \long\def\caption@iibox@#1#2#3#4{%

```

```

11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iiibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 []% lwarp
15 [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 {{#4}}% lwarp
18 }

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]#8{%
20 \begingroup
21 #1*% set \caption@position
22 \caption@iftop{%
23 \endgroup

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3
45 {\caption#4{#5}}%
46 }%
47 }%
48 }

```

\caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonspacel\et\LWR@mynexttoken\LWR@floatalignment}

```

```

61   {}
62   {\LWR@patcherror{caption}{@xfloat}}
63
64 \xapptocmd{\@xdblfloat}
65   {\LWR@futurenonamespacelet\LWR@mynexttoken\LWR@floatalignment}
66   {}
67   {\LWR@patcherror{caption}{@xdblfloat}}
68 }

69 \long\def\caption@@@text#1#2#3[#4]#5{%
70   \begin{BlockClass}{figurecaption}%      lwarp
71   \begingroup
72     #3{\csname c@#1\endcsname #4\relax}%
73     #2{\caption@fnum{#1}}{#5}%
74   \endgroup%
75   \end{BlockClass}%                      lwarp
76 }

```

Updates for late patches for scrextend:

```

77 \caption@AtBeginDocument{
78 \IfPackageLoadedTF{lwarp-scrextend}{
79   \LetLtxMacro\captionbelow\caption
80   \LetLtxMacro\captionabove\caption
81   \LetLtxMacro\captionofbelow\captionof
82   \LetLtxMacro\captionofabove\captionof
83 }{ }
84 }

```

---

File 70 **lwarp-caption3.sty**

§ 179 Package **caption3**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

caption3 (*Pkg*) **caption3** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

```

\caption@@@make      {\caption label} {\caption text}

2 \IfPackageAtLeastTF{caption3}{2020/08/23}{
3 \renewcommand\caption@@@make[2]{%
4 \LWR@traceinfo{caption@@@make}%

5   \LWR@stoppars%      lwarp

6 %   \sbox\@tempboxa{#1}%
7 %   \ifdim\wd\@tempboxa=\z@
8 %     \caption@set{labelseparator}{none}%
9 %   \fi

10  \caption@ifempty{#2}{%
11    \caption@set{labelseparator}{none}%
12    \caption@set{textformat}{simple}%
13  }%
14  \caption@labelseparator % defines \caption@iflabelfont,

```

```

15%     \caption@labelsep and \caption@labelsep@name
16%     (the latter is needed by \caption@fmt)
17%

18%   \setpar{\@@par\caption@@par}\caption@@par
19   \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20%   \caption@fmt
21   {\ifcaption@star\else
22     \begingroup
23     \caption@labelfont

24     \LWR@isolate{#1}%           lwarp
25     \endgroup
26     \fi}%
27   {\ifcaption@star\else
28     \begingroup
29     \caption@iflabelfont\caption@labelfont
30     \relax\caption@labelsep
31     \endgroup
32     \fi}%
33   {{\caption@textfont

34     \let\\newline%           lwarp
35%
36     \caption@textstart

37%     \caption@ifstrut
38%     {\vrule\@height\ht\strutbox\@width\z@}%
39%     {}}%
40%     \nobreak\hskip\z@skip % enable hyphenation

41     \LWR@isolate{\caption@textformat{#2}}%   lwarp

42%     \caption@ifstrut
43%     {\ifhmode\@finalstrut\strutbox\fi}%
44%     {}}%
45     \caption@textend}}%

46   \LWR@startpars%           lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49}% later than 2020/08/23
50{% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53   \LWR@stoppars%           lwarp
54%   \sbox\@tempboxa{#1}%
55%   \ifdim\wd\@tempboxa=\z@
56%     \let\caption@lsep\relax
57%   \fi
58 \caption@ifempty{#2}{%
59   \let\caption@lsep\@empty
60   \let\caption@tfmt\@firstofone
61 }%
62 \setpar{\@@par\caption@@par}\caption@@par
63 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

64%   \caption@fmt

```

```

65   {\ifcaption@star\else
66     \begingroup
67     \captionlabelfont
68     \LWR@isolate{#1}%           lwarp
69   \endgroup
70   \fi}%
71   {\ifcaption@star\else
72     \begingroup
73     \caption@iflf\captionlabelfont
74     \relax
75     \caption@lsep
76   \endgroup
77   \fi}%
78   {%
79     \captiontextfont
80     \let\\\newline%           lwarp
81 %   \caption@ifstrut
82 %     {\vrule\@height\ht\strutbox\@width\z@}%
83 %     {}%
84 %     \nobreak\hskip\z@skip % enable hyphenation
85     \LWR@isolate{\caption@tfmt{#2}}%   lwarp
86 %   \caption@ifstrut
87 %     {\ifhmode\@finalstrut\strutbox\fi}%
88 %     {}%
89   }%
90   \LWR@startpars%           lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

```

\caption@@make@

```

    {<>} {<>}
94 \renewcommand{\caption@@make@}[2]{%
95   \caption@stepthecounter%
96   \caption@beginhook%
97 %   \caption@box\hsize{%
98 %     \caption@singlelinecheck{\caption@slc{#1}{#2}}\caption@singleline\caption@multiline}{\caption@mu
99 %     \caption@calcmargin
100 %     \caption@make@leftmargin
101 %     \caption@make@parbox{%
102 %       \caption@make@indentation
103 %     \caption@@@make{#1}{#2}%
104 %     }
105 %     \caption@make@rightmargin
106 %   }%
107   \caption@endhook%
108 }

109 \DeclareCaptionBox{none}{#2}
110 \DeclareCaptionBox{parbox}{%
111   #2%
112 }

113 \DeclareCaptionBox{colorbox}{%
114   #2%
115 }

```

File 71 **lwarp-cases.sty**§ 180 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

`cases (Pkg)` `cases` is patched for use by `lwarp`.

While using `MATHJAX`, `cases` objects are converted to `svg` math images. The `MathJax 3.2 cases` package does not yet work with `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2020/03/29]
2 \BeforeBeginEnvironment{numcases}{
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newautoidanchor%
5   \booltrue{LWR@indisplaymathimage}%
6   \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{
10  \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14   \begin{BlockClass}{displaymathnumbered}
15   \LWR@newautoidanchor%
16   \booltrue{LWR@indisplaymathimage}%
17   \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21   \end{lateximage}\end{BlockClass}
22 }
```

File 72 **lwarp-ccicons.sty**§ 181 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

`ccicons (Pkg)` `ccicons` is used as `svg` images for `HTML`.

**for HTML output:** Discard all options for `lwarp-ccicons`:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]
2 \newcommand{\LWR@ccicons}[2]{%
3   {\begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
```

---

```

8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@enc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

### File 73 **lwarp-centerlastline.sty**

#### § 182 Package **centerlastline**

centerlastline (*Pkg*) centerlastline is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

---

### File 74 **lwarp-centernot.sty**

#### § 183 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

centernot (*Pkg*) centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

### File 75 **lwarp-changebar.sty**

#### § 184 Package **changebar**

changebar (*Pkg*) changebar is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

2 \newcommand*\cbstart{}
3 \newcommand*\cbend{}
4 \newenvironment*\changebar{}{}
5 \newcommand*\cbdelete{}
6 \newcommand*\nochnagebars{}
7 \newcommand*\cbcolor[1]{}

```

```

8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

---

File 76 **lwarp-changelayout.sty**

§ 185 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

changelayout (*Pkg*) **changelayout** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefautls{}
3
4 \renewrobustcmd\cpl@checkifoddpag{%
5   \cpl@oddpagfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9   \setkeys[KV]{changelay}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15   \setkeys[KV@X]{changelay}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21   \setkeys[KV]{changelay}{#1}%
22   \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23     \color{\cpl@textcolor}%
24     \cpl@content
25   \end{BlockClass}
26 }

```

---

File 77 **lwarp-changepage.sty**

§ 186 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

changepage (*Pkg*) **changepage** is ignored.

**for HTML output:**

Discard all options for **lwarp-changepage**:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpag

```



```

3 \DeclareRobustCommand{\checkoddpages}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changeindex}[9]{}
6
7 \ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```


---

File 78 **lwarp-changes.sty**

§ 187 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

changes (*Pkg*) changes is patched for use by lwarp.

 `\comment` Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \renewcommand{\ChangesListLine}[4]{%
3   \IfIsInList{#1}{\Changes@loc@show}{%
4     \LWR@startpars%
5     #2: #3 \quad
6     \nameref{\BaseJobname-autopage-#4}%
7     \LWR@stoppars%
8   }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\@empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 }{}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%
19 \def\Changes@loc@style{}%
20 }%
21 \IfIsEmpty{\Changes@loc@style}%
22 {\def\Changes@loc@style{list}}%
23 }{}%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 }{}%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%

```

```

28 {}%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead}
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 {}%
36 \IfIsEmpty{\Changes@loc@title}%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}{%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}{%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}{%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*{\Changes@heading}
47 \IfIsInList{\Changes@loc@style}{list}%
48 {%
49 \IfFileExists{\jobname.\Changes@loc@extension}%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi
58 \repeat
59 \closein\Changes@InFile%
60 }{%
61 \emph{\changes@loc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {%
67 \IfFileExists{\jobname.\Changes@loc@extension}%
68 {%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@loc@extension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%
74 \expandafter\changes@chopline\Changes@Line%%
75 \textbf{%
76 \IfIsColored%
77 {\color{\Changes@Incolor}}%
78 }%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR@textcurrentcolor{% lwarp
82 \changesauthorname: \changesanonymousname%
83 }% lwarp
84 }%
85 {%
86 \LWR@textcurrentcolor{% lwarp
87 \changesauthorname: \Changes@Inid%

```

```

88   }% lwarp
89 \IfIsEmpty{\Changes@Inname}%
90 {}%
91 { %
92   \LWR@textcurrentcolor{% lwarp
93 (\Changes@Inname)%
94   }% lwarp
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {%
105 % \parbox{\Changes@summary@width}{% lwarp
106   \changesnochanges%
107 % }% lwarp
108 % \\[1ex]% lwarp
109   \par% \lwarp
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*\do}[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%
116 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 % \parbox{\Changes@summary@width}{% lwarp
121 \csuse{changes#####1name}~%
122 % \let\cleaders\leaders\dotfill~% lwarp
123 \dotfill~% \lwarp
124 \csuse{Changes@In#####1}%
125 % }% lwarp
126 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
127 {\\}%
128 % {\\[1ex]}% lwarp
129 }%
130 {}%
131 }%
132 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
133   \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 }{}%
143 }{}%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%

```

```
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{Changes@todocolor}{authorcolor}}%
152 {\colorlet{Changes@todocolor}{black}}%
153 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nol
154 }{%}
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 }%
161 \LWR@textcurrentcolor{% lwarp
162 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}:} #1%
163 }% lwarp
164 }%
165 }{%}
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{% lwarp
170 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}:} #1%
171 }% lwarp
172 }%
173 }{%}
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 }%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}:} #1%
183 }%
184 }%
185 }{%}
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 }%
200 }%
201 \IfIsColored%
202 {\color{authorcolor}}%
203 }%
204 \LWR@textcurrentcolor{% lwarp
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
206 }% lwarp
207 }%}
```

```

208 }{}%
209 {%
210 \IfStrEq{#1}{highlight}%
211 }{}%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 }{}%
215 }%
216   \LWR@textcurrentcolor{%   lwarp
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
219 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
221   }% lwarp
222 }%
223 \IfIsEmpty{#5}%
224 {%
225 \IfIsAuthorEmptyAtPosition{#2}{right}%
226 }{}%
227 {%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 }{}%
231   \LWR@textcurrentcolor{%   lwarp
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
233   }% lwarp
234 }{}%
235 }{}%
236 \stepcounter{Changes@#1Count#2}%
237 }{}%
238 \IfIsEmpty{#5}%
239 }{}%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}}%
247 }{}%
248 }{}%
249 \IfIsEmpty{#2}%
250 {\def\Changes@Locid{}}%
251 {\def\Changes@Locid{~(##)}}%
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@Locid}{#7}{\thepage}}%
253 }{}%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }{}%
259 }

```

---

File 79 **lwarp-chappg.sty**

§ 188 Package **chappg**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

chappg (*Pkg*) chappg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]  
 2 \renewcommand{\pagenumbering}[2][{}]  
 3 \providecommand{\chappgsep}{--}

File 80 **lwarp-chapterbib.sty**

§ 189 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

chapterbib (*Pkg*) chapterbib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]  
 2 \xdef\@savedjobname{\BaseJobname}  
 3 \let\@currentipfile\@savedjobname

File 81 **lwarp-chemfig.sty**

§ 190 Package **chemfig**

*(Emulates or patches code by CHRISTIAN TELLECHEA.)*

chemfig (*Pkg*) chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]  
 2 \catcode'\\_ =11  
 3  
 4 \IfPackageAtLeastTF{chemfig}{2020/03/05}  
 5 {  
 6 \xpretocmd\charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}  
 7 {\LWR@patcherror{chemfig}{charge}}  
 8 \xpretocmd\Charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}  
 9 {\LWR@patcherror{chemfig}{Charge}}  
 10 \xapptocmd\charge\_c{\end{lateximage}}  
 11 {\LWR@patcherror{chemfig}{charge\_c}}  
 12 }{ }  
 13  
 14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%  
 15 {% 2019/04/18 or newer

```

16 \xpretocmd{\CF_chemfiga}
17   {\begin{lateximage}[-chemfig~\PackageDiagramAltText]}
18   {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20 \xpatchcmd{\CF_chemfigb}
21   {\let\CF_flipstate\CF_zero}
22   {\end{lateximage}\let\CF_flipstate\CF_zero}
23   {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
24
25 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
26 \gdef\CF_lewisc#1,#2\nil{%
27 \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
28 \LWR@chemfig@origCF_lewisc#1,#2\nil
29 \end{lateximage}
30 }
31
32 \gpreto{\schemestart}{%
33   \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
34   }
35 \gappto{\CF_schemestop}{\end{lateximage}}
36
37}% 2019/04/18 or newer
38{% older than 2019/04/18
39
40 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
41
42 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
43   \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
44   \IfBooleanTF{#1}{%
45     \LWR@chemfig@origchemfig*[#2][#3]{#4}%
46   }{%
47     \LWR@chemfig@origchemfig[#2][#3]{#4}%
48   }
49   \end{lateximage}%
50 }
51
52 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
53
54 \def\CF@lewis@b#1#2{%
55 \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
56 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
57 \end{lateximage}%
58 }
59
60 \preto{\schemestart}{%
61   \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
62   }
63 \appto{\CF@schemestop}{\end{lateximage}}
64
65}% older than 2019/04/18
66
67 \catcode'\_ =8%
68
69
70
71 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
72
73 \def\chemleft#1#2\chemright#3{%
74 \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
75 \LWR@chemfig@origchemleft#1#2\chemright#3%

```

```

76 \end{lateximage}%
77 }
78
79 \LetLtxMacro\LWR@chemfig@origchemup\chemup
80
81 \def\chemup#1#2\chemdown#3{%
82 \begin{lateximage}[-chemfig~\PackageDiagramAltText]%
83 \LWR@chemfig@origchemup#1#2\chemdown#3%
84 \end{lateximage}%
85 }

```

---


File 82 **lwarp-chemformula.sty**

§ 191 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemformula (*Pkg*) chemformula is patched for use by lwarp.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** chemformula works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The chemformula package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain chemformula expressions.

**for HTML output:** `1 \LWR@ProvidesPackagePass{chemformula}[2022/01/23]`

`2 \ExplSyntaxOn`

`\ch` Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \RenewDocumentCommand \ch { O{}m }
4 { %

```

To work inside `align` with `\displaymathother`, a simple version must be used to work with chemformula's adaptation to `align`.

```

5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
6 {
7 \chemformula_ch:nn {#1} {#2}% original
8 }

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingledollar*{% lwarp

```



```

13     \textbackslash{}%
14     ch%
15     \{%
16         \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
17     \}% alt text
18     }{%
19     \protect\LWR@HTMLsanitizedetokenized{%
20         \detokenize\expandafter{#1}%
21     }% add'l hashing
22     }%
23     {%
24         \chemformula_ch:nn {#1} {#2}%    original
25     }%
26     \endgroup%
27 }
28 }

```

\chcpd

Similar to \ch.

```

29 \IfPackageAtLeastTF{chemformula}{2019/10/13}{
30 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
31 {
32     \begingroup%
33     \boolfalse{mathjax}%
34     \LWR@subsingledollar*{% lwarp
35         \textbackslash{}%
36         chcpd%
37         \{%
38             \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
39         \}%
40     }{%
41         \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
42     }% original
43     \group_begin:
44         \tl_if_blank:nF {#2}
45         {
46             \keys_set:nn {chemformula} {#1}
47             \__chemformula_save_catcodes:
48             \__chemformula_sanitiz:Nn
49                 \l__chemformula_chemformula_tmpa_tl
50                 {#2}
51             \__chemformula_input_compound_no_check:NV
52                 \l__chemformula_compound_tl
53             \l__chemformula_chemformula_tmpa_tl
54             \__chemformula_prepare_output:NV
55                 \l__chemformula_compound_tl
56                 \l__chemformula_catcodes_tl
57             \chemformula_write:V \l__chemformula_compound_tl
58         }
59     \group_end:
60 }
61 \endgroup
62 }
63 }% later than 2019/10/13
64 {% earlier than 2019/10/13
65 \changes{v0.903}{2021/12/18}{\pkg{chemformula}: Improved alt tag sanitization.}
66 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
67 {
68     \begingroup%
69     \boolfalse{mathjax}%

```

```

70 \LWR@subsingledollar*{% lwarp
71 \textbackslash}%
72 chcpd%
73 \{%
74 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
75 \}%
76 }{%
77 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
78 }{% original
79 \group_begin:
80 \tl_if_blank:nF {#2}
81 {
82 \keys_set:nn {chemformula} {#1}
83 \__chemformula_save_catcodes:
84 \__chemformula_sanitiz:Nn
85 \__chemformula_chemformula_tmpa_tl
86 {#2}
87 \__chemformula_input_compound_no_check:NV
88 \__chemformula_compound_tl
89 \__chemformula_chemformula_tmpa_tl
90 \__chemformula_prepare_output:N \__chemformula_compound_tl
91 \chemformula_write:V \__chemformula_compound_tl
92 }
93 \group_end:
94 }
95 \endgroup
96 }
97}% earlier than 2019/10/13

```

 $\charrow$ 

If standalone, appears in a regular lateximage.

```

98 \RenewDocumentCommand \charrow { mO{}O{} }
99 {
100 \begin{lateximage}[-chemformula- charrow]
101 \group_begin:
102 \__chemformula_draw_arrow:nnn {#1} {#2} {#3}
103 \group_end:
104 \end{lateximage}
105 }

```

 $\chname$ 

If standalone, appears in a regular lateximage, hashed according to contents.

```

106 \RenewDocumentCommand \chname { R(){}R(){} }
107 {
108 \begin{lateximage}*[%
109 \textbackslash}%
110 chname%
111 (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
112 (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%
113 ]*%
114 \chemformula_chwritebelow:nn {#1} {#2}
115 \end{lateximage}
116 }

```

 $\chlewis$ 

Placed inline, hashed according to contents and options.

```

117 \RenewDocumentCommand \chlewis { O{}mm }
118 {
119 \begingroup%

```

```

120 \boolfalse{mathjax}%
121 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
122 {
123   \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
124 }{
125   \chemformula_lewis:nnn {#1} {#2} {#3}
126 }
127 \endgroup%
128 }

```

**lwarp** redefines the \$ character, so special handling is required to escape math expressions inside \ch.

This boolean tracks a new kind of escaped math:

```
129 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

\chemformula\_input\_escape\_math

Adds additional escaping for the new dollar definition:

```

130 \cs_gset_protected:Npn \l__chemformula_input_escape_math:n #1
131 {
132   \l__chemformula_first_last_math:n {#1}
133   \bool_if:NT \l__chemformula_first_last_dollar_bool
134     {
135       \bool_set_true:N \l__chemformula_first_last_math_bool
136       \__chemformula_read_escape_dollar:w #1 \q_nil
137     }
138   \bool_if:NT \l__chemformula_first_last_mathbraces_bool
139     {
140       \bool_set_true:N \l__chemformula_first_last_math_bool
141       \__chemformula_read_escape_mathbraces:w #1 \q_nil
142     }

```

Added by lwarp:

```

143   \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% \l__chemformula_read_escape_LWRdollar:w #1$ \q_nil%
144   {
145     \bool_set_true:N \l__chemformula_first_last_math_bool% \l__chemformula_read_escape_LWRdollar:w #1 \q_nil%
146     \__chemformula_read_escape_LWRdollar:w #1 \q_nil%
147   }
148 }

```

\chemformula\_read\_escape\_LWRdollar

The following parses the contents inside the new dollars.

**lwarp** keeps the dollar as its original math shift until the document starts. While **chemmacros** is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

149 \begingroup
150 \catcode'\$=\active
151
152 \cs_new_protected:Npn \l__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
153 {
154   \__chemformula_read_escape_math:n {#1}
155 }
156

```

157 \endgroup

\chemformula\_bool\_set\_if\_first\_last

The following looks at the first and last tokens for delimiters to escape math inside \ch. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```
158 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
159 {
160   \int_zero:N \l__chemformula_tmpa_int
161   \int_zero:N \l__chemformula_tmpb_int
162   \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
163   \tl_map_inline:nn {#2}
164     {
165       \int_incr:N \l__chemformula_tmpb_int
166       \int_compare:nT { \l__chemformula_tmpb_int = 1 }
167         {
```

At the start, the cs\_ version compares control sequences:

```
168     \ifdefstrequal{##1}{#3}% lwarp
169     {
170       \bool_set_true:N #1
171     }% lwarp
172     {}
173   }
```

At the end, compare more control sequences:

```
174   \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
175   {
176     \ifdefstrequal{##1}{#4}
177     {}
178     {
179       \bool_set_false:N #1
180     }
181   }
182 }
183 }
```

\chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```
184 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
185 {
186   \bool_set_false:N \l__chemformula_first_last_math_bool
187   \bool_set_false:N \l__chemformula_first_last_dollar_bool
188   \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
189   \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
190   \__chemformula_bool_set_if_first_last:Nnnn
191   \l__chemformula_first_last_dollar_bool
192   {#1}
193   { $ } { $ }
194   \bool_if:NF \l__chemformula_first_last_dollar_bool
195   {
196     \__chemformula_bool_set_if_first_last:Nnnn
197     \l__chemformula_first_last_mathbraces_bool
198     {#1}
```

```
199      { \ ( ) { \ } }
```

Added by lwarp:

```
200      \bool_if:NF \l__chemformula_first_last_mathbraces_bool%   lwarp
201      {
202          \__chemformula_bool_cs_set_if_first_last:NnNN
203          \l__chemformula_first_last_LWRdollar_bool
204          {#1}
205          { \LWR@newsingledollar } { \LWR@newsingledollar }
206      }%   lwarp
207  }
208 }


209 \ExplSyntaxOff
```


### File 83 **lwarp-chemgreek.sty**

## § 192 Package **chemgreek**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

chemgreek (*Pkg*) chemgreek is patched for use by lwarp.

 **package selection** Greek symbols To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

 **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X** If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5   { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9   { \ensuremath { \text {#1} } }%
10 }
11
12 \ExplSyntaxOff
```

### File 84 **lwarp-chemmacros.sty**

## § 193 Package **chemmacros**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

chemmacros (*Pkg*) chemmacros is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]

svg file hashing assumes that the relevant options are constant for the entire document.

### § 193.1 **Changes to the user's document**

⚠ `\makepolymerdelims` When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

### § 193.2 **Code**

```
2 \ExplSyntaxOn
```

### § 193.3 **Loading packages**

Also accept the `lwarp` version:

```
3 \prg_set_conditional:Npnn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4 {
5   \cs_if_exist:cTF {ver@#1.sty}
6     { \prg_return_true: }
7     {
8       \cs_if_exist:cTF {ver@lwarp-#1.sty}
9         { \prg_return_true: }
10        { \prg_return_false: }
11      }
12 }
```

Nullify `hyperref` detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14 {
15   \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

### § 193.4 Loading modules

Patching chemmacros modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

### § 193.5 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env polymerdelims

```
17 \DeclareDocumentEnvironment{polymerdelims}{}
18 {\begin{lateximage}[-chemmacros- polymer]}
19 {\end{lateximage}}
```

Env redoxreaction

*{<space above>} {<space below>}*

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 90.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}
21 {\begin{lateximage}[-chemmacros- redoxreaction]}
22 {\end{lateximage}}
```

### § 193.6 Acid-base

```
23 \AtBeginDocument{
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{
25 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
26
27 \cs_gset_protected:Npn \chemmacros_p:n #1
28 {
29   \begingroup
30   \boolfalse{mathjax}
31   \LWR@subsingledollar*{
32     \textbackslash{ }%
33     p%
34     \{ %
35     \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
36   \}
37   }{
38     chemmacrosp%
39     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
40   }{
41     \group_begin:
42     \mbox
43     {
44       \chemmacros_p_style:n {p}
45       \ensuremath {#1}
46     }
47     \group_end:
48   }
49   \endgroup
50 }
51
52 \RenewDocumentCommand \pH {} { }
```

```
53 \begingroup
54 \boolfalse{mathjax}
55 \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
56   \chemmacros_p:n { \chemmacros_formula:n {H} }
57 }
58 \endgroup
59 }
60
61 \RenewDocumentCommand \pOH {} {
62   \begingroup
63   \boolfalse{mathjax}
64   \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
65     \chemmacros_p:n { \chemmacros_formula:n {OH} }
66   }
67 \endgroup
68 }
69
70 \RenewDocumentCommand \pKa {0{}}
71 {
72   \begingroup
73   \boolfalse{mathjax}
74   \LWR@subsingledollar*{\textbackslash}pKa{[]#1{}}{chemmacros #1}{
75     \chemmacros_p:n
76     {
77       \Ka \ifblank {#1} {}
78       { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
79     }
80   }
81 \endgroup
82 }
83
84 \RenewDocumentCommand \pKb {0{}}
85 {
86   \begingroup
87   \boolfalse{mathjax}
88   \LWR@subsingledollar*{\textbackslash}pKb{[]#1{}}{chemmacros #1}{
89     \chemmacros_p:n
90     {
91       \Kb \ifblank {#1} {}
92       { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
93     }
94   }
95 \endgroup
96 }
97
98 \LetLtxMacro\LWR@chemmacros@origKa\Ka
99 \renewcommand*{\Ka}{%
100   \begingroup
101   \boolfalse{mathjax}
102   \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
103     \LWR@chemmacros@origKa%
104   }%
105 \endgroup
106 }
107
108 \LetLtxMacro\LWR@chemmacros@origKb\Kb
109 \renewcommand*{\Kb}{%
110   \begingroup
111   \boolfalse{mathjax}
112   \LWR@subsingledollar*{\textbackslash}Kb}{chemmacros}{%
```



```

113     \LWR@chemmacros@origKb%
114   }%
115   \endgroup
116 }
117
118 \LetLtxMacro\LWR@chemmacros@origKw\Kw
119 \renewcommand*\Kw}{%
120   \begingroup
121     \boolfalse{mathjax}
122     \LWR@subsingledollar*\textbackslash{Kw}{chemmacros}{
123       \LWR@chemmacros@origKw
124     }
125   \endgroup
126 }
127
128 }{ }% module loaded
129 }% AtBeginDocument

```

### § 193.7 Charges

```

130 \AtBeginDocument{
131 \chemmacros_module_if_loaded:nTF{{charges}}{
132 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
133
134 \cs_gset_protected:Npn \fplus {
135   \begingroup
136     \boolfalse{mathjax}
137     \LWR@subsingledollar*\textbackslash{fplus}{chemmacros}
138     { \LWR@origensuredmath{\chemformula_fplus:} }
139   \endgroup
140 }
141 \cs_gset_protected:Npn \fminus {
142   \begingroup
143     \boolfalse{mathjax}
144     \LWR@subsingledollar*\textbackslash{fminus}{chemmacros}
145     { \LWR@origensuredmath{\chemformula_fminus:} }
146   \endgroup
147 }
148
149 }{ }% Module loaded.
150 }% AtBeginDocument

```

### § 193.8 Nomenclature

```

151 \AtBeginDocument{
152 \chemmacros_module_if_loaded:nTF{{nomenclature}}{
153 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
154
155 \cs_gset_protected:Npn \chemmacros_charge:n #1
156 {
157   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{
158     {\chemmacros_formula:n { }^{#1} }}
159   {
160     \ifmmode
161       {\chemmacros_formula:n { }^{#1} }}
162     \else
163       { \textsuperscript{\ensuremath{#1}} }
164     \fi
165   }
166 }

```

```
167
168 \hook_gput_code:nnn {begindocument/end} {chemmacros}
169 {
170 \protected\def\LWR@HTML@chemprime { \HTMLUnicode{2032} }
171 \LWR@formatted{chemprime}
172 }

173 \cs_gset_protected:Npn \__chemmacros_cip:n #1
174 {
175   \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
176   \int_step_inline:nnnn {0} {1} {9}
177   {
178     \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
179       {##1}
180     { { \l__chemmacros_cip_number_tl ##1 } }
181   }
182   {
183     \l__chemmacros_cip_inner_tl
184     \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
185       \l__chemmacros_tmpa_tl
186     }}% lwarp
187   }
188 }

189 \RenewDocumentCommand \Sconf { O{S} } {
190 \begin{lateximage}[\textbackslash{}Sconf{[ ]#1[ ]}]*
191   \chemmacros_sconf:n {#1}
192 \end{lateximage}
193 }
194
195 \RenewDocumentCommand \Rconf { O{R} } {
196 \begin{lateximage}[\textbackslash{}Rconf{[ ]#1[ ]}]*
197   \chemmacros_rconf:n {#1}
198 \end{lateximage}
199 }

200 \cs_gset_protected:Npn \chemmacros_hapto:n #1
201 {
202   \begingroup
203   \boolfalse{mathjax}
204   \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{chemmacros}{
205     \chemmacros_coordination_symbol:nnnn
206     { \l__chemmacros_coord_use_hyphen_bool }
207     {
208       { \c_true_bool }
209     }
210     { \chemeta }
211     {#1}
212   }
213   \endgroup
214 }
215
216 \cs_gset_protected:Npn \chemmacros_dento:n #1
217 {
218   \begingroup
219   \boolfalse{mathjax}
220   \LWR@subsingledollar*{\textbackslash{}dento\{#1\}}{chemmacros}{
221     \chemmacros_coordination_symbol:nnnn
222     { \l__chemmacros_coord_use_hyphen_bool }
223     {
```

```

224         { \c_true_bool }
225     }
226     { \chemkappa }
227     {#1}
228 }
229 \endgroup
230 }
231
232 \cs_gset_protected:Npn \chemmacros_bridge:n #1
233 {
234     \begingroup
235     \boolfalse{mathjax}
236     \LWR@subsingledollar*{\textbackslash}bridge\{#1\}\{chemmacros\}{
237         \chemmacros_coordination_symbol:nnnn
238         { \l__chemmacros_coord_use_hyphen_bool }
239         { \l__chemmacros_bridge_super_bool }
240         { \chemmu }
241         {#1}
242     }
243     \endgroup
244 }
245 }{}% Module loaded.
246 }% AtBeginDocument

```

### § 193.9 Particles

```

247 \AtBeginDocument{
248 \chemmacros_module_if_loaded:nTF{{particles}}{
249 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
250
251 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
252 {
253     \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
254     {
255         \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
256         {
257             \chemmacros_elpair:n { #2 }
258             { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
259             \chemmacros_formula:n { {}^{ - } }
260         }
261         { \chemmacros_formula:n { #2^{ - } } }
262     }
263     \DeclareDocumentCommand #1 {o}
264     {%
265         \begin{lateximage}%
266         \group_begin:%
267             \IfNoValueF {##1}%
268             { \chemmacros_set_keys:nn {particles} {##1} }%
269             \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
270         \group_end:%
271         \end{lateximage}%
272     }
273 }
274
275 \RenewChemNucleophile \Nuc {Nu}
276 \RenewChemNucleophile \ba {ba}
277
278 }{}% Module loaded.
279 }% AtBeginDocument

```

§ 193.10 **Phases**

```

280 \AtBeginDocument{
281 \chemmacros_module_if_loaded:nTF{{phases}}{
282 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
283
284 \cs_undefine:N \chemmacros_phase:n
285 \cs_new_protected:Npn \chemmacros_phase:n #1
286 {

287   \mode_leave_vertical:

288   \bool_if:NTF \l__chemmacros_phases_sub_bool
289     {
290       \ifnumequal{\value{LWR@lateximagedepth}}{0}
291         {
292           \textsubscript{ (#1) }
293         }
294         {
295           \chemformula_subscript:n { (#1) }
296         }
297       }
298     {
299       \skip_horizontal:N \l__chemmacros_phases_space_dim
300       \chemmacros_text:n { (#1) }
301     }
302   }
303
304 }{}% Module loaded.
305 }% AtBeginDocument

```

§ 193.11 **Mechanisms**

```

306 \AtBeginDocument{
307 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
308 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
309
310 \chemmacros_define_keys:nn {textmechanisms}
311 {
312   type      .choice: ,
313   type /    .code:n   =
314   {
315     \__chemmacros_set_mechanisms:nnn { S }
316     {
317       \textsubscript{N}
318     }
319     { }
320   } ,
321   type / 1  .code:n   =
322   {
323     \__chemmacros_set_mechanisms:nnn { S }
324     {
325       \textsubscript{N}
326       1
327     }
328     { }
329   } ,
330   type / 2  .code:n   =
331   {
332     \__chemmacros_set_mechanisms:nnn { S }

```

```
333     {
334         \textsubscript{N}
335     }
336     { }
337     { }
338 },
339 type / se .code:n =
340 {
341     \__chemmacros_set_mechanisms:nnn { S }
342     {
343         \textsubscript{E}
344     }
345     { }
346 },
347 type / le .code:n =
348 {
349     \__chemmacros_set_mechanisms:nnn { S }
350     {
351         \textsubscript{E}
352         1
353     }
354     { }
355 },
356 type / 2e .code:n =
357 {
358     \__chemmacros_set_mechanisms:nnn { S }
359     {
360         \textsubscript{E}
361         2
362     }
363     { }
364 },
365 type / ar .code:n =
366 {
367     \__chemmacros_set_mechanisms:nnn { S }
368     {
369         \textsubscript{E}
370     }
371     { Ar - }
372 },
373 type / e .code:n =
374 { \__chemmacros_set_mechanisms:nnn { E } { } { } },
375 type / e1 .code:n =
376 { \__chemmacros_set_mechanisms:nnn { E } { 1 } { } },
377 type / e2 .code:n =
378 { \__chemmacros_set_mechanisms:nnn { E } { 2 } { } },
379 type / cb .code:n =
380 {
381     \__chemmacros_set_mechanisms:nnn { E }
382     {
383         1
384         \textsubscript{cb}
385     }
386     { }
387 },
388 type .default:n =
389 }
390
391 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
392 {
```

```

393 \tl_if_blank:nTF {#1}
394   { \chemmacros_set_keys:nn {textmechanisms} { type } }
395   { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
396 \mbox
397   {
398     \tl_use:N \l__chemmacros_mechanisms_ar_tl
399     \tl_use:N \l__chemmacros_mechanisms_type_tl
400     \tl_use:N \l__chemmacros_mechanisms_mol_tl
401   }
402 }
403
404 \appto\LWR@restoreorigformatting{%
405 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
406   {%
407     \tl_if_blank:nTF {#1}%
408     { \chemmacros_set_keys:nn {mechanisms} { type } }%
409     { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
410     \mbox%
411     {%
412       \tl_use:N \l__chemmacros_mechanisms_ar_tl%
413       \tl_use:N \l__chemmacros_mechanisms_type_tl%
414       \tl_use:N \l__chemmacros_mechanisms_mol_tl%
415     }%
416   }%
417 }
418
419 }{}% Module loaded.
420 }% AtBeginDocument

```

## § 193.12 Newman

There are so many options that it is hard to hash these images for reuse.

```

421 \AtBeginDocument{
422 \chemmacros_module_if_loaded:nTF{{newman}}{
423 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
424
425 \RenewDocumentCommand \newman {od()m}%
426   {
427     \IfValueTF{#2}
428     {\begin{lateximage}[\textbackslash]newman(#2)\{#3\}}*}
429     {\begin{lateximage}[\textbackslash]newman\{#3\}}*}
430     \group_begin:
431     \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
432     \IfNoValueTF {#2}
433     { \chemmacros_newman:nn { } {#3} }
434     { \chemmacros_newman:nn {#2} {#3} }
435     \group_end:
436     \end{lateximage}
437   }%
438
439 }{}% Module loaded.
440 }% AtBeginDocument

```

§ 193.13 **Orbital**

```

441 \AtBeginDocument{
442 \chemmacros_module_if_loaded:nTF{{orbital}}{
443 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
444
445 \RenewDocumentCommand \orbital {om}
446 {
447   \IfValueTF{#1}
448   {
449     \begin{lateximage}[%
450       \textbackslash{}%
451       orbital{[]}%
452       \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
453       []\{#2\}%
454     ]*[][\margin-left: 1em ; margin-right: 1em]
455   }
456   {
457     \begin{lateximage}[%
458       \textbackslash{}orbital\{#2\}%
459     ]*[][\margin-left: 1em ; margin-right: 1em]
460   }
461   \group_begin:
462     \chemmacros_set_keys:nn {orbital/type} {#2}
463     \IfNoValueTF {#1}
464       { \chemmacros_orbital:n { } }
465       { \chemmacros_orbital:n {#1} }
466   \group_end:
467   \end{lateximage}
468 }
469
470 }{}% Module loaded.
471 }% AtBeginDocument

```

§ 193.14 **Reactions**

```

\chemmacros_declare_reaction_env  {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}
472 \AtBeginDocument{
473 \chemmacros_module_if_loaded:nTF{{reactions}}{
474 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
475
476 % #1: chem
477 % #2: math
478 % #3: args number
479 % #4: argument list ({#2}{#3}...)
480 \cs_gset_protected:Npn \__chemmacros_declare_reaction_env:nnnn #1#2#3#4
481 {
482   \exp_args:Nnx \DeclareDocumentEnvironment {#1}
483     { \int_compare:nT { #3+0 = 0 } {!} O{} \prg_replicate:nn {#3+0} {m} }
484     {
485       \boolfalse{mathjax}%                               lwarp
486       \ifdefvoid{\LWR@ThisAltText}{%                       lwarp
487         \ThisAltText{-chemmacros~reaction}%               lwarp
488       }{}%                                                 lwarp
489       \chemmacros_add_reaction_description:n {##1}
490       \__chemmacros_begin_reaction:
491       \__chemmacros_reaction_read:nnw {#2} {#4}
492     }
493   {

```

```

494     \__chemmacros_end_reaction:
495     \gdef\LWR@ThisAltText{%           lwarp
496     \ignorespacesafterend
497     }
498 }
499
500 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
501
502 \RenewChemReaction {reaction} {equation}
503 \RenewChemReaction {reaction*} {equation*}
504 \RenewChemReaction {reactions} {align}
505 \RenewChemReaction {reactions*} {align*}
506
507 }{}% Module loaded.
508 }% AtBeginDocument

```

### § 193.15 Reactants

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

509 \StartDefiningTabulars%           lwarp
510
511 % #1: star: include ID in table
512 \RenewDocumentCommand \printreactants {s}
513 {
514   \group_begin:
515   \chemmacros_set_keys:nn {reactants} { switch = false }
516   \int_step_variable:nNn
517   { \seq_count:N \g_chemnum_initiated_compounds_seq }
518   \l__chemmacros_reactants_tmpa_tl
519   {
520     \seq_put_right:Nx
521     \l__chemmacros_reactants_tmpa_seq
522     {
523       \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
524       {
525         \seq_item:NV
526         \g_chemnum_initiated_compounds_seq
527         \l__chemmacros_reactants_tmpa_tl
528       }
529       &
530       \bool_if:nT {#1}
531       {
532         \seq_item:NV
533         \g_chemnum_initiated_compounds_seq
534         \l__chemmacros_reactants_tmpa_tl
535       }
536       &
537       % TODO: expl3-command ??
538       \solvent
539       {
540         \seq_item:NV
541         \g_chemnum_initiated_compounds_seq
542         \l__chemmacros_reactants_tmpa_tl
543       }
544       \tabularnewline
545     }
546     \tl_set:Nx
547     \l__chemmacros_reactants_tmpb_tl

```



```

548     {
549         \seq_item:NV
550         \g_chemnum_initiated_compounds_seq
551         \l__chemmacros_reactants_tmpa_tl
552     }
553     \chemmacros_reactants_list_subreactant:Vn
554     \l__chemmacros_reactants_tmpb_tl
555     {#1}
556 }
557 % TODO: longtable ?
558 %     table customizable?
559 % first draft of two styles
560 \par
561 \noindent
562 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
563 {
564     \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
565     {
566         {xltabular}
567         {
568             \chemmacros_if_package_loaded:nTF {xltabular}
569             {
570                 \bool_if:nTF {#1}
571                 {
572                     \begin {xltabular}
573                     { \textwidth }
574                     { @{}ll>{\raggedright\arraybackslash}X@{} }
575                     }
576                 {
577                     \begin {xltabular}
578                     { \textwidth }
579                     { @{}l>{\raggedright\arraybackslash}X@{} }
580                     }
581                 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
582             \end{xltabular}
583         }
584         {
585             \msg_expandable_error:nnnn
586             {chemmacros}
587             {package-not-loaded}
588             { \printreactants }
589             {xltabular}
590         }
591     }
592 }{longtable}
593 {
594     \chemmacros_if_package_loaded:nTF {longtable}
595     {
596         \bool_if:nTF {#1}
597         {
598             \begin {longtable}[l]
599             { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
600             }
601         {
602             \begin {longtable}[l]
603             { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
604             }
605         \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
606     \end{longtable}
607 }

```

```
608         {
609             \msg_expandable_error:nnnn
610             {chemmacros}
611             {package-not-loaded}
612             { \printreactants }
613             {longtable}
614         }
615     }
616 }
617 }
618 {
619     \msg_warning:nn {chemmacros} {missing-printreactants-style}
620 }
621 \group_end:
622 }
623
624 % #1: full ID
625 % #2: star, include ID in table
626 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
627 {
628     \chemnum_if_subcompounds:nT {#1}
629     {
630         \int_step_variable:nNn
631         { \chemnum_count_subcompounds:n {#1} }
632         \l__chemmacros_reactants_tmpa_tl
633         {
634             \seq_put_right:Nx
635             \l__chemmacros_reactants_tmpa_seq
636             {
637                 \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
638                 {
639                     \exp_not:n {#1}
640                     \exp_not:V \l_chemnum_compound_separator_tl
641                     \chemnum_get_subcompound:nV
642                     {#1}
643                     \l__chemmacros_reactants_tmpa_tl
644                 }
645                 &
646                 \bool_if:nT {#2}
647                 {
648                     #1
649                     \l_chemnum_compound_separator_tl
650                     \chemnum_get_subcompound:nV
651                     {#1}
652                     \l__chemmacros_reactants_tmpa_tl
653                 }
654                 &
655                 % TODO: expl3-command ??
656                 \solvent
657                 {
658                     #1
659                     \l_chemnum_compound_separator_tl
660                     \chemnum_get_subcompound:nV
661                     {#1}
662                     \l__chemmacros_reactants_tmpa_tl
663                 }
664                 \tabularnewline
665             }
666         }
667     }
```

```

668 }
669 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:nn {V}
670
671 \StopDefiningTabulars%      lwarp

```

### § 193.16 Redox

```

672 \AtBeginDocument{
673 \chemmacros_module_if_loaded:nTF{{redox}}{
674 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
675
676 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
677 {
678 \IfBooleanTF {#1}
679 { \chemmacros_ox:nnnn {#1} {#2} #3 }
680 { \chemmacros_ox:nnnn { } {#2} #3 }
681 }
682
683 \RenewDocumentCommand \ox { s O{} m }
684 {
685 \begingroup
686 \boolfalse{mathjax}
687 \IfBooleanTF {#1}
688 {
689 \LWR@subsingledollar*{% yes hash
690 \textbackslash}%
691 ox*%
692 \{%
693 \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
694 \}% alt
695 }{%
696 star \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
697 }{%
698 \LWR@chemmacros@ox* {#2} {#3}% contents
699 }%
700 }
701 {
702 \LWR@subsingledollar*{% yes hash
703 \textbackslash}%
704 ox%
705 \{%
706 \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
707 \}% alt
708 }{%
709 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
710 }{%
711 \LWR@chemmacros@ox {#2} {#3}% contents
712 }%
713 }
714 \endgroup
715 }
716
717 }{%} Module loaded.
718 }% AtBeginDocument

```

### § 193.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

719 \AtBeginDocument{
720 \chemmacros_module_if_loaded:nTF{{scheme}}{
721 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
722
723 \ifdefstring{\schemename}{los}{
724 \SetupFloatingEnvironment{scheme}{
725 name = \chemmacros_translate:n {scheme-name}
726 }
727 }{ }
728
729 }{ }% Module loaded.
730 }% AtBeginDocument

```

### § 193.18 Spectroscopy

```

731 \AtBeginDocument{
732 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
733 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
734
735 \cs_gset_protected:Npn \__chemmacros_nmr_base:nn #1#2
736 {
737   \group_begin:
738     \tl_use:N \l__chemmacros_nmr_base_format_tl
739     \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
740     {
741       \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
742       \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
743     }
744     \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
745 % \chemmacros_formula:n { ^{#1} }
746 \textsuperscript{#1}
747 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
748 {
749   \bool_if:NTF \l__chemmacros_nmr_parse_bool
750   { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
751   { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
752 }
753 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
754 \tl_use:N \l__chemmacros_nmr_method_tl
755 \group_end:
756 }
757
758
759 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
760 {
761   \chemmacros_formula:x
762   {
763     \exp_not:V \g__chemmacros_nmr_element_tl
764     \bool_if:NF \l__chemmacros_nmr_position_side_bool
765     {
766       \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
767       { \textsuperscript{\exp_not:n { #1} } }% lwarp
768       { \textsubscript{\exp_not:n { #1} } }% lwarp
769 % \exp_not:V \l__chemmacros_nmr_position_tl
770 % \exp_not:n { #1 }
771     }
772   }
773 \bool_if:NT \l__chemmacros_nmr_position_side_bool
774 {
775   \tl_use:N \l__chemmacros_nmr_position_tl

```

```

776     \__chemmacros_nmr_position:n {#1}
777   }
778 }
779
780 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
781 {
782   \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
783     {
784       \l__chemmacros_nmr_coupling_bonds_pre_tl
785       #1
786       \l__chemmacros_nmr_coupling_bonds_post_tl
787     }
788   \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
789     {
790       \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
791         {
792           \c_math_subscript_token
793           \textsubscript% lwarp
794           {
795             \l__chemmacros_nmr_coupling_nuclei_pre_tl
796             \chemmacros_formula:n {#2}
797             \l__chemmacros_nmr_coupling_nuclei_post_tl
798           }
799         }
800     }
801     {
802       \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
803         {
804           \l__chemmacros_nmr_coupling_nuclei_pre_tl
805           \chemmacros_formula:n {#2}
806           \l__chemmacros_nmr_coupling_nuclei_post_tl
807         }
808     }
809   \__chemmacros_nmr_coupling_aux_i:w
810 }
811 \AfterEndPreamble{% After \AtBeginDocument
812 % \NMR{<num>,<elem>}<num>,<unit>}<solvent>] ALL arguments are optional
813 % \NMR* same but without ": $\delta$" at end
814 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
815   {
816     \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
817     \group_begin:

818     \mode_leave_vertical:

819     \bool_set_false:N \l__chemmacros_nmr_frequency_bool
820     \bool_set_false:N \l__chemmacros_nmr_solvent_bool
821     \tl_if_empty:nF {#3}
822     { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
823     \tl_if_empty:nF {#4}
824     { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
825     \bool_if:nT
826     {
827       \l__chemmacros_nmr_frequency_bool
828       ||
829       \l__chemmacros_nmr_solvent_bool
830     }
831     { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
832     \bool_if:nT
833     {

```

```

834         \l__chemmacros_nmr_frequency_bool
835         &&
836         \l__chemmacros_nmr_solvent_bool
837     }
838     { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
839     \tl_if_empty:nTF {#2}
840     {
841         \__chemmacros_nmr_nucleus:VV
842         \l__chemmacros_nmr_isotope_default_tl
843         \l__chemmacros_nmr_element_default_tl
844     }
845     { \__chemmacros_nmr_nucleus:w #2 \q_stop }
846     \mode_if_math:TF
847     {
848         \text
849         {
850             \group_begin:
851             \tl_use:N \l__chemmacros_nmr_format_tl
852             \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
853             \__chemmacros_nmr_base:VV
854             \g__chemmacros_nmr_isotope_tl
855             \g__chemmacros_nmr_element_tl
856             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
857             { ~ ( ) }
858             \bool_if:NT \l__chemmacros_nmr_frequency_bool
859             { \__chemmacros_nmr_frequency:n {#3} }
860             \bool_if:NT \l__chemmacros_nmr_comma_bool
861             { , ~ }
862             \bool_if:NT \l__chemmacros_nmr_solvent_bool
863             { \chemmacros_formula:n {#4} }
864             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
865             { ) }
866             \tl_if_blank:nT {#1} {:#~}
867         }}% lwarp
868         \group_end:
869     }
870     \tl_if_blank:nT {#1}
871     {
872         \delta
873         \text { \l__chemmacros_nmr_delta_tl }
874         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
875     }
876 }
877 {
878     \group_begin:
879     \tl_use:N \l__chemmacros_nmr_format_tl
880     \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
881     \__chemmacros_nmr_base:VV
882     \g__chemmacros_nmr_isotope_tl
883     \g__chemmacros_nmr_element_tl
884     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
885     {~(}
886     \bool_if:NT \l__chemmacros_nmr_frequency_bool
887     { \__chemmacros_nmr_frequency:n {#3} }
888     \bool_if:NT \l__chemmacros_nmr_comma_bool
889     {,~}
890     \bool_if:NT \l__chemmacros_nmr_solvent_bool
891     {
892         \bool_if:NTF \l__chemmacros_nmr_parse_bool

```

```

893 %           { \chemformula_ch:nn { } {#4} }% original
894           {\ch{#4}}% lwarp
895           {#4}
896         }
897     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
898         {}
899 }}% lwarp
900     \tl_if_blank:nT {#1} {:}
901     \group_end:
902     \tl_if_blank:nT {#1}
903     {
904         \tl_use:N \c_space_tl
905         \c_math_toggle_token
906         \delta
907         \c_math_toggle_token
908         \l__chemmacros_nmr_delta_tl
909         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
910     }
911 }
912 \group_end:
913 }
914 }% AfterEndPreamble
915
916
917 \RenewDocumentCommand \chemmacros_data:w { smo }
918 {
919     \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
920     {
921 %         \tl_use:N \l__chemmacros_nmr_format_tl #2
922         \tl_use:N \l__chemmacros_nmr_format_tl
923         \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
924             #2
925             \IfNoValueF {#3} { ~ ( #3 ) }
926             \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
927             }}% lwarp
928     }
929     \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
930 }
931
932 }{}% Module loaded.
933 }% AtBeginDocument

```

### § 193.19 Thermodynamics

```

934 \AtBeginDocument{
935 \chemmacros_module_if_loaded:nTF{{thermodynamics}}{
936 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
937
938 \cs_gset_protected:Npn \chemmacros_state:nnnnn #1#2#3#4#5#6
939 {
940     \group_begin:
941     \chemmacros_set_keys:ne {thermodynamics}
942     {
943         \exp_not:n {#1} ,
944         \tl_if_no_value:nF {#2} { subscript-left = \exp_not:n {#2} , }
945         \tl_if_no_value:nF {#3} { superscript-left = \exp_not:n {#3} , }
946         \tl_if_no_value:nF {#5} { subscript-right = \exp_not:n {#5} , }
947         \tl_if_no_value:nF {#6} { superscript-right = \exp_not:n {#6} }
948     }
949     \LWR@subsingledollar*{% yes hashing

```

```

950     \textbackslash{}state%
951     {\LWR@HTMLsanitizedetokenized{\detokenize{#4}}\}% alt
952   }{%
953     chemmacros_state% add'l hashing
954     #1% options
955     LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
956     LSB \tl_use:N \l__chemmacros_state_sb_left_tl
957     RSP \tl_use:N \l__chemmacros_state_sp_right_tl
958     RSB \tl_use:N \l__chemmacros_state_sb_right_tl
959   }
960   {
961     \LWR@origensuredmath
962     {
963       \chemmacros_text:V \l__chemmacros_state_pre_tl
964       \c_math_superscript_token
965       { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

966     \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
967     {}
968     {
969       \c_math_subscript_token
970       { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
971     }
972     #4
973     \c_math_superscript_token
974     { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
975     \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
976     {}
977     {
978       \c_math_subscript_token
979       { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
980     }
981     \chemmacros_text:V \l__chemmacros_state_post_tl
982   }
983 }
984 \group_end:
985 }
986 \cs_generate_variant:Nn \chemmacros_state:nnnnn { nVVVVV }
987
988 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
989 {
990   \chemmacros_define_keys:xn
991   {thermodynamics/\chemmacros_remove_backslash:N #1}
992   {
993     pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
994     post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
995     superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
996     superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
997     superscript .meta:n = { superscript-right = ##1 } ,
998     subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
999     subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1000     subscript .meta:n = { subscript-left = ##1 } ,
1001     subscript-pos .choices:nn =
1002     { left , right }
1003     { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1004     symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
1005     unit .tl_set:N = \l__chemmacros_state_unit_tl

```



```

1006     }
1007     \DeclareDocumentCommand #1 { sO{}D(){}m }
1008     {
1009         \group_begin:
1010         \chemmacros_set_keys:en
1011         {thermodynamics/\chemmacros_remove_backslash:N #1}
1012         {#2}
1013         \tl_if_blank:nF {##3}
1014         {
1015             \chemmacros_set_keys:ne {thermodynamics}
1016             { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1017         }
1018 %     \LWR@origensuredmath
1019 %     {
1020         \chemmacros_state:nVVVVV
1021         {##2}
1022         \c_novalue_tl
1023         \c_novalue_tl
1024         \l__chemmacros_state_symbol_tl
1025         \c_novalue_tl
1026         \c_novalue_tl
1027         \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1028         \IfBooleanF {##1} { = \qty {##4} { \l__chemmacros_state_unit_tl } }
1029 %     }
1030     \group_end:
1031     }
1032 }

```

The pre-existing macros are redefined with the new definition:

```

1033 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1034 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1035 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1036
1037 }{}% Module loaded.
1038 }% AtBeginDocument

1039 \ExplSyntaxOff

```

---

File 85 **lwarp-chemnum.sty**

§ 194 Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

chemnum (*Pkg*) **chemnum** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6     \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7     \group_begin:
8         \bool_if:NTF \l__chemnum_compound_local_bool
9         { \l__chemnum_local_label_format_tl }

```

```

10     { \chemnum_get_compound_property:nn {#1} {label-format} }
11     {
12     \LWR@textcurrentfont{
13     \chemnum_get_compound_property:nn {#1} {counter-representation}
14     }
15     }
16     \group_end:
17     \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18   }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22   \group_begin:
23   \bool_if:NTF \l__chemnum_compound_local_bool
24     { \l__chemnum_local_label_format_tl }
25     { \chemnum_get_compound_property:nn {#1} {label-format} }
26     {
27     \LWR@textcurrentfont{
28     \chemnum_get_subcompound_property:nnn {#1} {#2}
29     {counter-representation}
30     }
31     }
32   \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 86 **lwarp-chkfloat.sty**

§ 195 Package **chkfloat**

chkfloat (*Pkg*) chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 87 **lwarp-chngpage.sty**

§ 196 Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

chngpage (*Pkg*) chngpage is ignored.

**for HTML output:** Discard all options for lwarp-chngpage:

```

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}

```

---

File 88 **lwarp-cite.sty**

§ 197 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

`cite (Pkg)` `cite` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the `[super]` option, the `\kern` must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6   \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the `[super]` option, `\textsuperscript` is used instead of `math superscript`:

```
8 \def\@citess#1{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citepunct{}{\, \, \relax}
```

## File 89 **lwarp-citeref.sty**

### § 198 Package **citeref**

*(Emulates or patches code by BJÖRN BRIEL.)*

`citeref (Pkg)` `citeref` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```
2 \def\@cprwrite#1={%
3   \write\@auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citepageref#1#2{%
7   \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
8   \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
9   \ifx\cpr@testa\cpr@testb%
10    \relax% Konsekutive identische Seitenangaben weglassen
11  \else%
12    \@namexdef{cpr@last@#1}{#2}%
13    \@ifundefined{cpr@#1}%
14    {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
15    {% lwarp
16      \@namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
17      \LWR@refwithsection{\BaseJobname-autopage-#2}}%
18    }%
19  \fi
20 }
```

## File 90 **lwarp-CJK.sty**

### § 199 Package **CJK**

`CJK (Pkg)` `CJK` does not work with `lwarp` unless called from `ctex`.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{}{
2   \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

---

File 91 **lwarp-CJKutf8.sty**

§ 200 Package **CJKutf8**

CJKutf8 (*Pkg*) CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{}{
2   \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

File 92 **lwarp-classicthesis.sty**

§ 201 Package **classicthesis**

*(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)*

classicthesis (*Pkg*) classicthesis is emulated.

**for HTML output:** Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrtime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateaddvspace{}%
20 \newlength{\beforebibskip}
```

File 93 **lwarp-cleveref.sty**

§ 202 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

cleveref (*Pkg*) cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 734 to redefine the message which is printed for page number references.

Table 16 on page 495 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

⚠ **multiple labels**

**for HTML output:** `1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]`

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref <<kindofref>> <<label>>
```

`\@templabel` becomes the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5   \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
6 }{
7   \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8     \renewcommand*{\@@@setcref}[2]{%
9       #1{\ref{#2}}{}}
10  }{
11    \PackageWarningNoLine{lwarp-cleveref}{
12      Unknown version of cleveref.
13      \protect\cref\space will fail.
14    }%
15  }
16 }
```

```
\@@@setcrefrange <<text>> <<label>> <<label>>
```

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18   \cref@getlabel{#2}{\@labela}%
19   \cref@getlabel{#3}{\@labelb}%
20   #1{\@labela}{\@labelb}{\@labelc}{\@labeld}}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23   \renewcommand{\@@@setcrefrange}[3]{%
24     #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}}%
25   }
26 }{
27   \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
28     \renewcommand{\@@@setcrefrange}[3]{%
29       #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}}%
30     }
31   }{
32     \PackageWarningNoLine{lwarp-cleveref}{
33       Unknown version of cleveref.
34       \protect\crefrange\space will fail.
35     }
36   }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*{\cpagerefFor}{for}
```

`\@@@setcpageref`  $\langle typeofref \rangle \langle label \rangle$ , where *typeofref* is “page” or “pages”

```

39 \def\LWR@orig@@setcpageref#1#2{% before v0.21
40   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{\@labelc}{\@labeld}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43   \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{\@labelc}{\@labeld}}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{
46   \renewcommand*{\@@@setcpageref}[2]{%
47     #1{\cpagerefFor\ \cref{#2}}{\@labelc}{\@labeld}}%
48   }
49 }{
50   \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
51     \renewcommand*{\@@@setcpageref}[2]{%
52       #1{\cpagerefFor\ \cref{#2}}{\@labelc}{\@labeld}}%
53     }
54   }
55   {
56     \PackageWarningNoLine{lwarp-cleveref}{
57       Unknown version of cleveref.
58       \protect\cpageref\space will fail.
59     }
60   }
61 }

62 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
63   \cref@getpageref{#2}{\@pagea}%
64   \cref@getpageref{#3}{\@pageb}%
65   #1{\@pagea}{\@pageb}{\@labelc}{\@labeld}}%
66

```

```

67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68   \cpageref@getlabel{#2}{\@pagea}%
69   \cpageref@getlabel{#3}{\@pageb}%
70   #1{\@pagea}{\@pageb}{\@pagec}{\@paged}}%
71
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
73   \renewcommand*\@@setcpagerefrange}[3]{%
74     #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagea}{\@pageb}}%
75   }
76 }{
77   \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78     \renewcommand*\@@@setcpagerefrange}[3]{%
79       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagea}{\@pageb}}%
80     }
81   }
82   {
83     \PackageWarningNoLine{lwarp-cleveref}{
84       Unknown version of cleveref.
85       \protect\cpagerefrange\space will fail.
86     }
87   }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \IfPackageLoadedTF{varioref}{
100   \LWR@absorbstar{vref}
101   \LWR@absorbstar{Vref}
102   \LWR@absorbstar{vrefrange}
103   \LWR@absorbstar{Vrefrange}
104   \LWR@absorbstar{fullref}
105   \LWR@absorbstar{Fullref}
106 }{\}% varioref

107 \IfClassLoadedTF{memoir}{
108   \AtBeginDocument{
109     \def\s@f@memsub@label(#1)#2{%
110       \protected@edef\mem@currentlabelname{#1}%
111       \sf@memsub@label{#2}}
112   }
113 }{}

114 \IfPackageLoadedTF{subfig}{

```

```

115 \def\sf@sub@label(#1)#2{%
116   \ifhyperrefloaded
117     \protected@edef\@currentlabelname{%
118       \expandafter\strip@period #1\relax.\relax\@@}%
119   \fi
120   \sf@@sub@label{#2}}
121 }{}

```

---

File 94 **lwarp-clrdblpg.sty**

§ 203 Package **clrdblpg**

`clrdblpg` (*Pkg*) `clrdblpg` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]


---

File 95 **lwarp-cmbright.sty**

§ 204 Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

`cmbright` (*Pkg*) `cmbright` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}
9 {
10   \LWR@mathjax@addgreek@u@it*{}{}}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```



File 96 **lwarp-cmdtrack.sty**§ 205 Package **cmdtrack**

`cmdtrack` (*Pkg*) `cmdtrack` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}  


---

File 97 **lwarp-colonequals.sty**§ 206 Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`colonequals` (*Pkg*) `colonequals` is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}\! =}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\! =}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\! \approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\! \approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}\! \sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\! \sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim!\unicode{x2237}}}}
23 \end{warpMathJax}

```

File 98 **lwarp-color.sty**§ 207 Package **color**

`color` (*Pkg*) Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

**for HTML output:**


```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
3 \let\color@endgroup\endgroup
```

File 99 **lwarp-colortbl.sty**§ 208 Package **colortbl**

`colortbl` (*Pkg*) `colortbl` is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

`\columncolor`

```
[<model>] {<color>} [<left overhang>] [<right overhang>]
```

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

`\columncolor` is provided here to satisfy `\LWR@formatted's` test for the existence of the print-mode macro.

```
4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{}%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7   \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8   \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

`\rowcolor`                    [*model*] {*color*} [*left overhang*] [*right overhang*]

```

12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13   \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14   \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

`\cellcolor`                    [*model*] {*color*} [*left overhang*] [*right overhang*]

```

18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19   \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20   \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

`\arrayrulecolor`                [*model*] {*color*}

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```

24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

`\LWR@arrayrulecolornexttoken`    [*model*] {*color*}

The HTML version for use inside a tabular.

```

29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31   \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

`\doublerulesepcolor`            [*model*] {*color*}

The version for use outside a tabular.

```

35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

`\LWR@doublerulesepcolornexttoken`    [*model*] {*color*}

The version for use inside a tabular.

```

38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```
41 \begin{warpMathJax}
```

```

42
43 \CustomizeMathJax{\require{colortbl}}
44 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
45 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
46   \LWRorigcolumncolor[#1]{#2}%
47   \LWRabsorbtwooptions%
48 }}
49
50 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
51 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
52   \LWRorigrowcolor[#1]{#2}%
53   \LWRabsorbtwooptions%
54 }}
55
56 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
57 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
58   \LWRorigcellcolor[#1]{#2}%
59   \LWRabsorbtwooptions%
60 }}
61
62 \end{warpMathJax}

```

---

#### File 100 **lwarp-continue.sty**

### § 209 Package **continue**

continue (*Pkg*) continue is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

```

2 \newcommand*\flagcont{}
3 \newcommand*\flagend{}
4 \newcommand*\flagword{}
5 \newcommand*\preflagword{}
6 \newcommand*\postflagword{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

#### File 101 **lwarp-copyrightbox.sty**

### § 210 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

copyrightbox (*Pkg*) copyrightbox is emulated for use by lwarp.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a <div> of class copyrightboxcontents.

The copyright notice is placed inside a <div> of class copyrightboxnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4   display: inline-flex;
5   flex-direction: column ;
6 ]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 102 **lwarp-crop.sty**

§ 211 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

crop (*Pkg*) **crop** is ignored.

**for HTML output:** Discard all options for lwarp-crop:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*\crop}[1][{}]{
3 \newcommand*\cropdef}[6][{}]{

```


---

File 103 **lwarp-ctable.sty**

§ 212 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

ctable (*Pkg*) **ctable** is patched for use by lwarp.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

**for HTML output:** `1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]`

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][{}]{
3   \let\@CTtaborfig \@dfLTtaborfig
4   \let\@CTalign \@dfLTalign
5   \let\@CTsideways \@dfLTsideways
6   \let\@CTcontinued \empty
7   \let\@CTpos \@dfLTpos
8   \let\@CTcaption \empty

```

```

9   \let\@CTcap      \undefined
10  \let\@CTlabel    \empty
11  \let\@CTbotcap   \@df\CTbotcap
12  \let\@CTstarred  \@df\CTstarred
13  \let\@CTsuper    \@df\CTsuper
14  \let\@CTnotespar \@df\CTnotespar
15  \let\@CTdoinside \@df\CTdoinside
16  \let\@CTbgopacity \@df\CTbgopacity
17  \@CTframerule    \@df\CTframerule
18  \@CTcaptionskip  \@df\CTcaptionskip
19  \@CTframesep     \@df\CTframesep
20  \@CTwidth        \@df\CTwidth
21  \@CTmaxwidth     \@df\CTmaxwidth
22  \@CTmincapwidth  \@df\CTmincapwidth
23  \@CTfooterwidth  \@df\CTfooterwidth
24  \def\@CTfgactual {\@df\CTframefg}%
25  \def\@CTbgactual {\@df\CTframebg}%
26  \def\@CTbeg      {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27  \def\@CTbegin    {\@CTbeg}%
28  \def\@CTend      {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29  \setkeys{CT}{#1}%
30  \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31  \ifx\@CTcap\empty
32    \if@CTcaptionloaded\else
33      \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34        An empty cap= option prevents lot/loc entry only\MessageBreak
35        if the caption package is loaded!}
36    \fi
37  \fi
38  \if@CTinmemoir\else
39    \ifx\@CTbotcap\undefined
40      \PackageError{lwarp-ctable}{\MessageBreak
41        You can, currently, use the sidecap option only with\MessageBreak
42        memoir documents. Use topcap or botcap only}
43      {}
44    \fi
45  \fi
46  \ifdim\@CTwidth=0pt\else
47    \ifdim\@CTmaxwidth=0pt\else
48      \PackageError{lwarp-ctable}{\MessageBreak
49        You may not use the width and maxwidth options together\MessageBreak
50        Use either width or maxwidth}
51      {}
52    \fi
53  \fi
54  \ifx\@CTpos\empty
55    \ifx\@CTsideways\empty\else
56      \PackageError{lwarp-ctable}{\MessageBreak
57        You may not use the pos and sideways options together\MessageBreak
58        Rotated tables and figures are always typeset on a separate page}
59      {}
60    \fi
61  \fi
62  \ifx\@CTcaption\empty
63    \ifx\@CTlabel\empty\else
64      \PackageError{lwarp-ctable}{\MessageBreak
65        You may not label a captionless table\MessageBreak
66        Such a label can't be referenced}
67      {}
68    \fi

```

69 \fi

Some of the original, regarding computing the width of \CT@t, is removed here.

```
70 \CTbegin
71 \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
72 \CTalign
```

lwarp's patches begin here:

```
73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ;%
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{\}%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 ]%
87 ]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \CTend
108 }
109 \LWR@formatted{ctable}
```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```
111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
```

```

116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117   \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 104 **lwarp-cuted.sty**

§ 213 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

cuted (*Pkg*) **cuted** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

```

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak#1{}

```

---

File 105 **lwarp-cutwin.sty**

§ 214 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

cutwin (*Pkg*) **cutwin** is emulated.

**for HTML output:** Discard all options for lwarp-cutwin:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22

```



---

```

23 \newcommand*\putstuffinpic{}
24
25 \newcommand*\picinwindow{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 106 **lwarp-dblfloatfix.sty**

§ 215 Package **dblfloatfix**

`dblfloatfix (Pkg)` `dblfloatfix` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 107 **lwarp-dblfnote.sty**

§ 216 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

`dblfnote (Pkg)` `dblfnote` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

---

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNrulboth{}
10 \def\DFNruleleft{}

```

---

File 108 **lwarp-dcolumn.sty**

§ 217 Package **dcolumn**

`dcolumn (Pkg)` `dcolumn` is used as-is in a `lateximage`, and is emulated by the `lwarp` core.

`dcolumn` used to be \LWR@ProvidesPackageDrop in prior versions of `lwarp`, but is now supported for print mode.

1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]

Due to how the D column is created, cannot use \HTMLnewcolumn type here. An HTML version neutralizes the lower-level macros, leaving a c column type.

```

2 \newcommand*\LWR@HTML@DC@}[3]{}

```

---

```

3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end}{ }
6
7 \newcommand*\LWR@HTML@DC@end}{ }
8 \LWR@formatted{DC@end}

```

---

File 109 **lwarp-decimal.sty**

§ 218 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

decimal (*Pkg*) **decimal** works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\mbox{.}}
4 \end{warpMathJax}

```

---

File 110 **lwarp-decorule.sty**

§ 219 Package **decorule**

*(Emulates or patches code by PETER FLYNN.)*

decorule (*Pkg*) **decorule** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

```

2 \xpretocmd{\decorule}
3   {\begin{lateximage}*{decorule}}
4   {}
5   {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{decorule}{decorule B}}

```

---

File 111 **lwarp-diagbox.sty**

§ 220 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

diagbox (*Pkg*) **diagbox** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```
2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }
```

\LWR@diagbox@AB

```
{\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }
```

\LWR@diagboxNW

```
{\langle A \rangle} {\langle B \rangle}

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }
```

Likewise for NE, SW, SE:

```
20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW
```

\diagbox@double

```
{\langle keys \rangle} {\langle A \rangle} {\langle B \rangle}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }
```

\LWR@diagboxTNW

```
{\langle title \rangle} {\langle A \rangle} {\langle B \rangle}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }
```

Likewise for NE, SW, SE:

```
34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxNW{#2}{#3}
41 }
```

```

40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

\diagbox@triple

```

    {\langle keys \rangle} {\langle A \rangle} {\langle T \rangle} {\langle B \rangle}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

---

File 112 **lwarp-dingbat.sty**

§ 221 Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

dingbat (*Pkg*) **dingbat** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

```

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}

```

---

```

31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 113 **lwarp-DotArrow.sty**

§ 222 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

DotArrow (*Pkg*) **DotArrow** is patched for use by **lwarp**, and emulated for **MATHJAX**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}

```


---


File 114 **lwarp-dotlessi.sty**

§ 223 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

dotlessi (*Pkg*) **dotlessi** is used as-is for SVG math, and is emulated for **MATHJAX**.

 **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For **MATHJAX**, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For **MATHJAX**:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

---

File 115 **lwarp-dprogress.sty**

§ 224 Package **dprogress**

`dprogress (Pkg)` `dprogress` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 116 **lwarp-draftcopy.sty**

§ 225 Package **draftcopy**

`draftcopy (Pkg)` `draftcopy` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 117 **lwarp-draftfigure.sty**

§ 226 Package **draftfigure**

`draftfigure (Pkg)` `draftfigure` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]  
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 118 **lwarp-draftwatermark.sty**

§ 227 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

draftwatermark (*Pkg*) **draftwatermark** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

```

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

---

File 119 **lwarp-drftcite.sty**

§ 228 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

drftcite (*Pkg*) **drftcite** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

```

2 \def\@lbibitem[#1]#2{\global\@HighCite\z@
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
5 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
6 {Reference ‘#2’ on page \thepage\space was never cited}}}%
7 % \DC@llap{\$^\@nameuse{DCN@#2\@extra@b@citeb}}\$ \ }%o
8 \@citeverb{#2}}\hfil}\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

---

File 120 **lwarp-easy-todo.sty**

§ 229 Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

easy-todo (*Pkg*) **easy-todo** is patched for use by lwarp.

To remove the “P.” heading for HTML:

```
\warpHTMLOnly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos

Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii

Modified to use \textcolor instead of \color.

```
10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12   {%
13     \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
14   }%
15   {%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17   {%
18     \refstepcounter{todos}%
19     \noindent{%
20       \todocolor%
21       \LWR@textcurrentcolor{%
22         \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
23       }%
24     }%
25     \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{#2}}%
26   }%
27   {%
28 }
```

---

File 121 **lwarp-ebook.sty**

§ 230 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

ebook (*Pkg*) **ebook** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ebook}

```
2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefilll}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }
```



File 122 **lwarp-econometrics.sty**

§ 231 Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

econometrics (*Pkg*) econometrics is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}

```

```

48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{\mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][\%
74   \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}\, \#3^{\#1}}\%
75 ]}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][\%
77   \frac{\partial^{\#1}\#2}{\partial \ #3^{\#1}}\%
78 ]}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}

```

```

108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\rightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\rightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\rightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm\cal I}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm\cal H}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm\imath}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 123 **lwarp-ed.sty**

§ 232 Package **ed**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

ed (*Pkg*) **ed** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

**Bugs:**

1. `todolist` fails with the `hide` option, as does `\edexplanation`.
2. `\edstubURI` is actually `\edstuURI`.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6   \def\@test{#1}%
7   \begin{center}%
8     \huge%
9     \textcolor{red}{%
10      #1 is only a provisional stub\\Large
11      the Office document
12      \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13      contains more text\\which will be merged for the final document%
14    }%
15   \end{center}%
16   \BlockClass[color:blue]{edstub}%
17 }
18 \endBlockClass}

```

---

File 124 **lwarp-ellipsis.sty**

§ 233 Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

ellipsis (*Pkg*) **ellipsis** is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}

```

---

File 125 **lwarp-embrac.sty**

§ 234 Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

embrac (*Pkg*) **embrac** is patched for HTML and used as-is for print.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

2 \ExplSyntaxOn
3 \RenewDocumentCommand{\embrac_kern:n}{m}{}
4 \ExplSyntaxOff

5 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15   \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
16   \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17     \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21   \LWR@formatted{emph}
22   \LWR@formatted{textit}
23   \LWR@formatted{textsl}
24   \ifxetexorluatex
25     \LWR@formatted{textsi}
26   \fi
27 }
28

```

---

```

29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

File 126 **lwarp-emptypage.sty**

§ 235 Package **emptypage**

emptypage (*Pkg*) emptypage is ignored.

**for HTML output:** Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 127 **lwarp-endfloat.sty**

§ 236 Package **endfloat**

endfloat (*Pkg*) endfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 128 **lwarp-endheads.sty**

§ 237 Package **endheads**

endheads (*Pkg*) endheads is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13   \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19   \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22   \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

---

File 129 **lwarp-endnotes.sty**

§ 238 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

endnotes (*Pkg*) Patched for HTML.

[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional


```

[HTML page](#) To additionally have the endnotes on their own HTML page, if FileDepth allows:

```

\ForceHTMLPage
\theendnotes

```

 [\endnotemark numbering](#) If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

**for HTML output:** 1 \LWR@ProvidesPackagePass{endnotes}

```

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

```

```

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{@makeenmark}

```

To nullify the endnotes:

```

13 \apptocmd{\LWR@nullifyfootnotes}{%
14   \renewcommand{\endnote}[2][{}]%
15   \renewcommand{\endnotemark}[1]{}%
16 }{}{}

```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \def\endnotename{endnote}
19 \appto\LWR@syncnotenumbers{\LWR@synconotenummer{LWRendnote}{\theendnote}}
20 \appto\LWR@syncnotenames{\LWR@synconotename{LWRendnote}{\endnotename}}
21 \CustomizeMathJax{\def\LWRendnote{1}}
22 \CustomizeMathJax{\newcommand{\endnote}[2][LWRendnote]{{}^{\mathrm{#1}}}}
23 \CustomizeMathJax{\newcommand{\endnotemark}[1][LWRendnote]{{}^{\mathrm{#1}}}}
24 \end{warpMathJax}

```

---

File 130 **lwarp-engt1c.sty**

§ 239 Package **engt1c**

(Emulates or patches code by CLAUDIO FIANDRINO.)

engt1c (*Pkg*) engt1c is patched for use by lwarp. MATHJAX is emulated.



For MATHJAX, `\sight`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

**for HTML output:** 1 \LWR@ProvidesPackagePass{engt1c}[2012/12/18]

```

2 \newcommand{\LWR@HTML@fines}{%
3   \begin{BlockClass}[text-align:right]{exerend}%
4   \HTMLunicode{220E}%
5   \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engt1c}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\, \mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}

```

```
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
```



```

83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{MiB}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsunit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109   \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114   #1\mathopen{}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\text{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\text{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\right\vert#1\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\right\vert#1\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129   \mathopen{}\left.#1\right\vert_{\mathrm{dB}}\mathclose{}}%
130 }
131 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert_{\#2}}}
132 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
133 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
134 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
135 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
136 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
137 \CustomizeMathJax{\newcommand{\diff}{\mathop{\mathopen{\mathrm{d}}}}}
138 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
139 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
140 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}

```

```

143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathrm{I}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatenin}[1]{\mathrm{V}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\mathrm{I}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathrm{k}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\mathrm{#1}}}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\mathrm{#1}}}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\mathrm{#1}}}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\mathrm{#1}}}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\mathrm{#1}}}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\mathrm{#1}}}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\mathrm{#1}}}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf\mathrm{#1}}}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\mathrm{#1}}}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf\mathrm{#1}}}
169 \CustomizeMathJax{\newcommand{\zvz}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoeas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campohfas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\sigt}[1]{\mathrm{#1}(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\mathrm{#1}(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\mathrm{#1}(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\mathrm{#1}(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\mathrm{#1}\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\mathrm{#1}\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\mathrm{#1}\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , \ | , \ ,}}
187 %
188 \let\bfRe\partereale
189 \let\bfIm\parteimm
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}

```

```

203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacor}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potlim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe}
223 \CustomizeMathJax{\let\phasorHfield\campoh}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 131 **lwarp-enotez.sty**

§ 240 Package **enotez**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

enotez (*Pkg*) **enotez** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by **lwarp**, so it is forced on for **enotez**:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4   \bool_set_true:N \l__enotez_hyperref_bool
5   \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or \hbox the \hypertarget:

```

7% typeset the actual mark:
8% #1: id
9% #2: mark
10 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
11 {
12   \bool_if:NTF \l__enotez_hyperfootnotes_bool
13     {
14       \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
15       \bool_if:NT \l__enotez_hyperbackref_bool
16         {
17%         \box_move_up:nn {1em} {

```

```

18%             \hbox:n {
19               \hypertarget {enz.#1.backref} { }
20%             }
21%           }
22         }
23       }
24     { \enotezwritemark { \markstyle #2 } }
25   }
26 \cs_generate_variant:Nn \enotez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

27 \cs_gset_protected:Npn \enotez_write_list_number:n #1
28 {
29   \bool_if:NT \l__enotez_hyperfootnotes_bool
30   {
31%     \box_move_up:nn {1em} { \hbox:n {
32%       \hypertarget {enz.#1} { }
33%     } }
34   }
35   \tl_use:N \l__enotez_list_number_format_tl
36   \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
37   {
38     \bool_if:nTF
39     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
40     {
41       \exp_args:Nnx
42       \hyperlink {enz.#1.backref}
43       { \exp_not:V \l__enotez_endnote_mark_tl }
44     }
45     { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
46   }
47   {
48     \bool_if:nTF
49     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
50     {
51       \exp_args:Nnx
52       \hyperlink {enz.#1.backref}
53       { \exp_not:V \l__enotez_endnote_mark_tl }
54     }
55     { \tl_use:N \l__enotez_endnote_mark_tl }
56   }
57 }

```

Do not move the label to the left:

```

58 \DeclareTemplateCode {enotez-list} {paragraph} {1}
59 {
60   heading      = \enotez_list_heading:n      ,
61   format       = \l__enotez_list_format_tl  ,
62   number       = \enotez_list_number:n      ,
63   number-format = \l__enotez_list_number_format_tl ,
64   notes-sep    = \l__enotez_list_notes_sep_dim
65 }
66 {
67   \AssignTemplateKeys
68   \enotez_set_totoc:
69   \enotez_list_heading:n { \l__enotez_list_name_tl }
70   \enotez_list_preamble:
71   \enotez_build_print_list:nnnn {#1}

```

```

72     {}
73     {
74     \par\noindent
75     \group_begin:
76     \tl_use:N \l__enotez_list_format_tl
77%     \hbox_overlap_left:n
78%     {
79     \enotez_list_number:n
80     { \enotez_write_list_number:n {##1} }
81     \tl_use:N \c_space_tl
82%     }
83     % \cs_set:cpn {@currentlabel}
84     % { \p@endnote \l__enotez_endnote_mark_tl }
85     \tl_use:N \g__enotez_endnote_text_tl
86     \par
87     \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
88     { \addvspace { \l__enotez_list_notes_sep_dim } }
89     \group_end:
90     }
91     {}
92     \enotez_list_postamble:
93   }
94
95 \ExplSyntaxOff

```

For MATHJAX:

```

96 \begin{warpMathJax}
97 \def\endnotename{endnote}
98 \appto\LWR@synctotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
99 \appto\LWR@synctotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def\LWRendnote{1}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
103 \end{warpMathJax}

```

---

File 132 **lwarp-enumerate.sty**

§ 241 Package **enumerate**

`enumerate (Pkg)` enumerate is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by `lwarp` and thus must no longer be dropped.

**for HTML output:** 1\LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 133 **lwarp-enumitem.sty**

§ 242 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

enumitem (*Pkg*) enumitem is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}
```

For enumitem lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 134 **lwarp-epigraph.sty**

§ 243 Package **epigraph**

(Emulates or patches code by PETER WILSON.)

epigraph (*Pkg*) epigraph is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4   \begin{BlockClass}{qitem}%
5   #1%
6   \LWR@stoppars%
7   \ifbool{FormatWP}%
8     {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9     {\begin{BlockClass}{epigraphsource}}%
10  #2%
11  \end{BlockClass}%
12  \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}
```

epigraph: Added ARIA role.

```
15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17   \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{(note){epigraph}%
18   \qitem{#1}{#2}%
19   \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
```

```

22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24   {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}}{(note){epigraph}}%
25   {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}

```

---

File 135 **lwarp-epsf.sty**

§ 244 Package **epsf**

*(Emulates or patches code by TOM ROKICKI.)*

epsf (*Pkg*) **epsf** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsf}% not date given

```

2 \xpretocmd{\epsfsetgraph}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}


```

---

File 136 **lwarp-epsfig.sty**

§ 245 Package **epsfig**

epsfig (*Pkg*) **epsfig** is emulated for use by lwarp.

 Only the L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5   \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9   \xdef\LWR@epsfig@filename{#1}%
10 }
11

```

```

12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}

```

---

File 137 **lwarp-epstopdf.sty**

§ 246 Package **epstopdf**

`epstopdf` (*Pkg*) Previous versions of `lwarp` had a nullified version, but now `epstopdf-base` is supported. `lwarp-epstopdf` becomes a placeholder to overwrite previous versions.

See package `epstopdf-base` for details.

**for HTML output:** `1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]`

---

File 138 **lwarp-epstopdf-base.sty**

§ 247 Package **epstopdf-base**

`epstopdf-base` (*Pkg*)



**convert to .svg**

Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

```
Enter => lwarpmk pdftosvg <listofPDFfiles>
```

to generate `.svg` versions.

**for HTML output:** `1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]`

Redefine to remember the image filename, replacing `.pdf` with `.svg`. Use the `epstopdf print` version inside a `lateximage`.

```

2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3   \edef\LWR@tempone{#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}

```

`\includegraphics` in HTML mode redefines `\Gin@setfile` to be `\LWR@HTML@Gin@setfile`, which is now redirected to `epstopdf`'s version:



```

10 \renewcommand*\LWR@HTML@Gin@setfile}[3]{%
11   \ETE@Gin@setfile{#1}{#2}{#3}%
12 }

```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15   .eps, .EPS, .svg, .SVG, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }

```

Likewise when inside a lateximage:

```

20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22   .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }

```

---

File 139 **lwarp-eqlist.sty**

§ 248 Package **eqlist**

eqlist (*Pkg*) eqlist is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{Eqlist}[2][\description]{\enddescription}
5 \newenvironment{Eqlist*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 140 **lwarp-eqparbox.sty**

§ 249 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

eqparbox (*Pkg*) eqparbox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{ } O{t} m +m}{%

```

```

3   {%
4       \minipagefullwidth%
5       \parbox[#1][#2][#3]{\linewidth}{#5}%
6   }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11     \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16     \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22     \begingroup%
23     \minipagefullwidth%
24     \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27     \endminipage%
28     \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto}[2]{}

```

---

File 141 **lwarp-errata.sty**

§ 250 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

errata (*Pkg*) errata is patched for use by lwarp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the lwarp version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4   {$_a^{\arabic{erratum}}$}
5%   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7   {}
8   {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11  {$_d^{\arabic{erratum}}$}
12%  {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13  {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14  {}
15  {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18  {$_r^{\arabic{erratum}}$}
19%  {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20  {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21  {}
22  {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25  {$_a$}
26%  {\inlinemathother$_a$\inlinemathnormal}
27  {\textsubscript{a}}
28  {}
29  {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32  {$_d^{\@thefnmark}$}
33%  {\inlinemathother$_d^{\@thefnmark}}$\inlinemathnormal}
34  {\textsubscript{d}\textsuperscript{\@thefnmark}}
35  {}
36  {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39  {$_r^{\@thefnmark}$}
40%  {\inlinemathother$_r^{\@thefnmark}}$\inlinemathnormal}
41  {\textsubscript{r}\textsuperscript{\@thefnmark}}
42  {}
43  {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

---

File 142 **lwarp-eso-pic.sty**

§ 251 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

eso-pic (*Pkg*) eso-pic is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand\AddToShipoutPictureBG{s +m}{}

13 \newcommand\AddToShipoutPicture{\AddToShipoutPictureBG}
14 \NewDocumentCommand\AddToShipoutPictureFG{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand\gridSetup}[6][{}]
```

---

File 143 **lwarp-esvect.sty**

§ 252 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

esvect (*Pkg*) esvect is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{esvect}% no date given

```


2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand\LRResvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand\LRResvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand\vv{\ifstar\LRResvectvstar\LRResvectv}}
6 \end{warpMathJax}
```

---

File 144 **lwarp-etoc.sty**

§ 253 Package **etoc**


etoc (*Pkg*) etoc is ignored. All commands are nullified.

 **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a \tableofcontents for a following \ref. These \refs appear in the HTML result unless they are removed. Where a \tableofcontents is followed by \ref, and perhaps also \label as well, enclose all of them inside \warpprintonly:

```

\warpprintonly{\tableofcontents
\label{toc:def}} \ref{toc:abc}
```

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

 **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warpHTMLonly` macro or `warpHTML` environment.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber{}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {}{\@firstofone}
15 \DeclareRobustCommand*\etocifnumbered{}\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst{}\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty{}\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoc\tableofcontents{}
21 \newcommand*\local\tableofcontents{}
22 \newcommand*\local\tableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocseppone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etoc\tableofcontents
48     {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etoc\tableofcontents
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etoc\tableofcontents
53 \def\etoc\tableofcontents

```

```
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etoctoprule{\hrule}
66 \def\etoclefttrule{\vrule}
67 \def\etocrighttrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etoctoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etoclefttrulecolorcmd{\relax}
72 \def\etocrighttrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocfont #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etococstyle[3][section]{}
98 \newcommand\etococstylewithmarks[4][section]{}
99 \newcommand\etococstylewithmarksnouc[4][section]{}
100 \def\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}
```

```

114 \let\etocaftertoohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

---

File 145 **lwarp-eurosym.sty**

§ 254 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

eurosym (*Pkg*) **eurosym** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```

2 \renewrobustcmd\officialeuro{\HTMLentity{euro}}
3 \let\geneuro\officialeuro
4 \let\geneuronarrow\officialeuro
5 \let\geneuowide\officialeuro
6 \let\euro\officialeuro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}

```

---

File 146 **lwarp-everypage.sty**

§ 255 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

everypage (*Pkg*) **everypage** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```

2 \newcommand*\AddEverypageHook}[1]{}
3 \newcommand*\AddThispageHook}[1]{}

```

---

File 147 **lwarp-everyshi.sty**

§ 256 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

everyshi (*Pkg*) **everyshi** is ignored.

**for HTML output:** Discard all options for **lwarp-everyshi**:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout}[1]{}

```

---

File 148 **lwarp-extarrows.sty**

§ 257 Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

extarrows (*Pkg*) **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

---

File 149 **lwarp-extramarks.sty**

§ 258 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

extramarks (*Pkg*) **extramarks** is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```

1 \LWR@ProvidesPackageDrop{extramarks}[2019/01/31]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand*{\firstleftxmark}{}
4 \newcommand*{\lastleftxmark}{}
5 \newcommand*{\firstrightxmark}{}
6 \newcommand*{\lastrightxmark}{}
7 \newcommand*{\firstxmark}{}
8 \newcommand*{\lastxmark}{}
9 \newcommand*{\topxmark}{}
10 \newcommand*{\topleftxmark}{}
11 \newcommand*{\toprightxmark}{}
12 \newcommand*{\firstleftmark}{}
13 \newcommand*{\lastrightmark}{}
14 \newcommand*{\firstrightmark}{}
15 \newcommand*{\lastleftmark}{}

```



File 150 **lwarp-fancybox.sty**

§ 259 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

fancybox (*Pkg*) fancybox is supported with some patches.


[framed equation example](#) fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
[\fbox{\TheSbox}\]
\endlateximage% NEW
}
```

[framing alternatives](#) \fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

[framed table example](#) The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

 [framed verbatim](#) lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```

framed <code>\VerbBox</code>	<code>fancybox</code> 's <code>\VerbBox</code> may be used inside <code>\fbox</code> .
indented alignment	<code>LVerbatim</code> , <code>\LVerbatimInput</code> , and <code>\LUseVerbatim</code> indent with horizontal space which may not line up exactly with what <i>pdftotext</i> detects. Some lines may be off slightly in their left edge.
<span style="color: blue;">fancybox, fancyvrb</span> <span style="color: red;">⚠ <code>\VerbatimFootnotes</code></span> <span style="color: red;">⚠ sectioning or displaymath</span>	<p>If using <code>fancybox</code> or <code>fancyvrb</code> with <code>\VerbatimFootnotes</code>, and using footnotes in a sectioning command or display math, use <code>\footnotemark</code> and <code>\footnotetext</code>:</p> <pre style="margin-left: 20px;">\subsection[Subsection Name]   {Subsection Name\protect\footnotemark} \footnotetext{A footnote with \verb+verbatim+.</pre> <p>and likewise for equations or display math.</p> <p>At present there is a bug such that paragraph closing tags are not present in footnotes when <code>\VerbatimFootnotes</code> are selected. The browser usually compensates.</p> <pre>1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]</pre> <p>After the preamble is loaded, after any patches to <code>Verbatim</code>:</p> <pre>2 \AfterEndPreamble{ 3 \LWR@traceinfo{Patching fancybox.}</pre>
<code>\VerbatimFootnotes</code>	<p>Patched to use the new version.</p> <pre>4 \def\VerbatimFootnotes{% 5 \let\@footnotetext\@footnotetext% 6 \let\LWR@footnotetext\@footnotetext% lwarp 7 }</pre>
<code>\V@footnotetext</code>	<p>Patches in a subset of <code>lwarp</code>'s <code>\LWR@footnotetext</code> to the <code>fancyvrb</code> version of <code>\V@footnotetext</code>.</p> <pre>8 \def\V@footnotetext{% 9 \LWR@traceinfo{V@footnotetext}%</pre> <p>Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.</p> <pre>10 \LWR@newautopagelabel{page}%</pre> <p>Take the current footnote box, then append:</p> <pre>11 \global\setbox\LWR@footnotebox=\vbox\bgroup%</pre> <p>Add to any current footnotes:</p> <pre>12 \unvbox\LWR@footnotebox%</pre> <p>Remember the footnote number for <code>\ref</code>:</p> <pre>13 \protected@edef\@currentlabel{% 14 \csname p@footnote\endcsname\@thefnmark% 15 }% @currentlabel</pre> <p>Use HTML superscripts in the footnote even inside a <code>lateximage</code>:</p> <pre>16 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%</pre> <p>Use paragraph tags if in a tabular data cell or a <code>lateximage</code>:</p> <pre>17 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%</pre>

Append the footnote to the list:

```
18 \makefnctext{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
19 \bgroup%
```

```
20 \aftergroup\V@@@footnotetext%
```

Do not generate autpages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
21 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
22 \ignorespaces%
```

```
23 }%
```

\V@@@footnotetext

```
24 \def\V@@@footnotetext{%
```

```
25 \LWR@origtilde\LWR@orignewline%
```

```
26 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
```

```
27 \strut\egroup%
```

```
28 }
```

```
29 }% AfterEndPreamble
```

```
30 \renewcommand*\@shadowbox}[1]{%
```

```
31 \ifbool{FormatWP}%
```

```
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
```

```
33 {\InlineClass{shadowbox}{#1}}%
```

```
34 }
```

```
35
```

```
36 \renewcommand*\@doublebox}[1]{%
```

```
37 \ifbool{FormatWP}%
```

```
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
```

```
39 {\InlineClass{doublebox}{#1}}%
```

```
40 }
```

```
41
```

```
42 \renewcommand*\@ovalbox}[2]{%
```

```
43 \ifbool{FormatWP}%
```

```
44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
```

```
45 {%
```

```
46 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
```

```
47 {\InlineClass{ovalbox}{#2}}%
```

```
48 {\InlineClass{Ovalbox}{#2}}%
```

```
49 }%
```

```
50 }
```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```
51 \let\LWR@origSbox\Sbox
```

```
52
```

```
53 \def\Sbox{\LWR@origSbox\LWR@nestspan}
```

```
54
```

```
55
```

```
56 \let\LWR@origendSbox\endSbox
```

```
57
```

```
58 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}
```

Beqarray is adapted for MATHJAX or enclosed inside a lateximage:

```
59 \RenewEnviron{Beqarray}
60 {\LWR@eqnarrayfactor}
61
62 \csgpreto{Beqarray*}{\boolfalse{LWR@numbereqnarray}}
```

\GenericCaption is enclosed in an HTML block:

```
63 \renewcommand{\GenericCaption}[1]{%
64   \LWR@figcaption%
65   \LWR@isolate{#1}%
66   \endLWR@figcaption%
67 }
```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

\trivlist

{\l/c/r} [ {\t/c/b} ]

```
68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70   \LWR@stoppars%
71   \begin{BlockClass}{Btrivlist}%
72   \tabular{#1}%
73 }
74 {%
75   \endtabular%
76   \end{BlockClass}%
77   \LWR@startpars%
78 }
```

Btrivlist is also neutralized when used inside a span:

```
79 \AtBeginEnvironment{LWR@nestspan}{%
80   \RenewDocumentEnvironment{Btrivlist}{m o}{ }{%
81 }
```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```
82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
86   \IfValueTF{#2}{%
87     \LWRFB@origitemizeitem[#2]%
88   }{%
89     \LWRFB@origitemizeitem%
90   }%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
94   \IfValueTF{#2}{%
95     \LWRFB@origdescitem[#2]~%
96   }{%
97     \LWRFB@origdescitem%
98   }%
99 }
```

```

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101   \if@newlist\else{
102     \LWR@htmltagc{br /}%
103     \LWR@orignewline%
104   }\fi%
105   \LWR@origitem%
106 }

```

The various boxed lists become regular lists:

```

107 \renewenvironment{Bitemize}[1]{}
108   {%
109     \LWR@spanwarnformat{Bitemize}%
110     \booltrue{LWR@starting@fancybox}%
111     \begin{itemize}%
112     \boolfalse{LWR@starting@fancybox}%
113   }
114   {\end{itemize}}
115
116 \renewenvironment{Benumerate}[1]{}
117   {%
118     \LWR@spanwarnformat{Benumerate}%
119     \booltrue{LWR@starting@fancybox}%
120     \begin{enumerate}%
121     \boolfalse{LWR@starting@fancybox}%
122   }
123   {\end{enumerate}}
124
125 \renewenvironment{Bdescription}[1]{}
126   {%
127     \LWR@spanwarnformat{Bdescription}%
128     \booltrue{LWR@starting@fancybox}%
129     \begin{description}%
130     \boolfalse{LWR@starting@fancybox}%
131   }
132   {\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

133 \RenewDocumentCommand{\boxput}{s d() m m}{%
134   \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
135 }

```

Neutralized commands:

```

136 \RenewDocumentCommand{\fancyput}{s d() m}{%}
137 \RenewDocumentCommand{\thisfancyput}{s d() m}{%}
138
139 \RenewDocumentCommand{\fancypage}{m m}{%}
140 \RenewDocumentCommand{\thisfancypage}{m m}{%}
141
142 \def\LandScape#1{}
143 \def\endLandScape{}
144 \def\@Landscape#1#2#3{}
145 \def\endLandscape{}

```

Low-level patches for UseVerbatim and friends:

```

146 \let\LWRFB@UseVerbatim\UseVerbatim
147 \renewcommand*\UseVerbatim}[1]{%
148   \LWR@atbeginverbatim{Verbatim}%
149   \LWRFB@UseVerbatim{#1}%
150   \LWR@afterendverbatim%
151 }
152
153 \let\LWRFB@LUseVerbatim\LUseVerbatim
154
155 \renewcommand*\LUseVerbatim}[1]{%
156   \LWR@atbeginverbatim{LVerbatim}%
157   \noindent%
158   \LWRFB@LUseVerbatim{#1}%
159   \LWR@afterendverbatim%
160 }
161
162 \def\@BUseVerbatim[#1]#2{%
163   \LWR@atbeginverbatim{BVerbatim}%
164   \LWRFB@UseVerbatim{#2}%
165   \LWR@afterendverbatim%
166 }

```

---

File 151 **lwarp-fancyhdr.sty**

§ 260 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

fancyhdr (*Pkg*) fancyhdr is ignored.

**for HTML output:** Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

2 \newcommand*\fancyhead}[2][{}]{
3 \newcommand*\fancyfoot}[2][{}]{
4 \newcommand*\fancyhf}[2][{}]{
5
6 \newcommand*\lhead}[2][{}]{
7 \newcommand*\chead}[2][{}]{
8 \newcommand*\rhead}[2][{}]{
9 \newcommand*\lfoot}[2][{}]{
10 \newcommand*\cfoot}[2][{}]{
11 \newcommand*\rfoot}[2][{}]{
12 \newcommand*\headrulewidth}{}
13 \newcommand*\footrulewidth}{}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule}{}
20 \newcommand*\footrule}{}
21 \newlength{\headwidth}
22 \newcommand*\fancycenter}[1][1em]{

```

```

23 \newcommand*{\fancyheadoffset}[2][{}
24 \newcommand*{\fancyfootoffset}[2][{}
25 \newcommand*{\fancyhfoffset}[2][{}
26 \newcommand{\fancyheadinit}[1]{
27 \newcommand{\fancyfootinit}[1]{
28 \newcommand{\fancyhfinit}[1]{
29 \newcommand*{\iffloatpage}[2]{#2}
30 \newcommand*{\ifftopfloat}[2]{#2}
31 \newcommand*{\iffbotfloat}[2]{#2}
32 \newcommand*{\iffootnote}[2]{#2}
33
34 \newcommand{\fancypagestyle}[1]{%
35   \ifnextchar[{\f@nch@pagestyle{#1}}{\f@nch@pagestyle{#1}}{}%
36 }
37 \long\def\f@nch@pagestyle#1[#2]#3{

```

---

File 152 **lwarp-fancypar.sty**

§ 261 Package **fancypar**

*(Emulates or patches code by GONZALO MEDINA.)*

fancypar (*Pkg*) **fancypar** is used as-is for print output, and emulated for HTML.

⚠ **css classes** `\NotebookPar` and related are used as-is inside a `lateximage`, but for HTML these are emulated as a `<div>` of class `NotebookPar`, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom CSS for each if visual effects are required. See section 7.7.

⚠ **custom styles** If using a custom paragraph style, such as `\MyStylePar` from the documentation, use the following to generate an HTML `<div>` of class `MyStylePar`:

```

... (existing definiton of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

`\MyStylePar` is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:** `1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]`

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancypar}[2]{%
6   \begin{BlockClass}{#1Par}
7     #2
8   \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][{}{\LWR@fancypar{Notebook}{#2}}
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][{}{\LWR@fancypar{Zebra}{#2}}
15 \LWR@formatted{ZebraPar}

```

```

16
17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancy@par{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancy@par{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancy@par{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancy@par@Class}[1]{%
32   \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancy@par{#1}{##2}]%
33   \LWR@fancy@par{#1}{##2}%
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

---

File 153 **lwarp-fancyref.sty**

§ 262 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

fancyref (*Pkg*) fancyref is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

\fancyrefhook (*Hook*) [fancyref] To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWR@ref@parenfancyrefhook[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWR@ref@parenfancyrefhook}
5 {}{
6   \renewcommand*\fancyrefhook[1]{#1}%
7 }

```

---

File 154 **lwarp-fancytabs.sty**

§ 263 Package **fancytabs**

fancytabs (*Pkg*) fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]



```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{

```

---

File 155 **lwarp-fancyvrb.sty**

§ 264 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

fancyvrb (*Pkg*) fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a `<div>` of class fancyvrb. The label is placed inside a `<div>` of class fancyvrblabel. The verbatim text itself is placed inside a `<div>` of class verbatim.

**fancybox, fancyvrb** If using fancybox or fancyvrb with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:



`\VerbatimFootnotes`



sectioning or  
displaymath

```

\subsection[Subsection Name]
  {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]

```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to Verbatim:

```

5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}

```

`\VerbatimFootnotes`

Patched to use the new version.

```

7 \def\VerbatimFootnotes{%
8   \let\@footnotetext\@footnotetext%

```

```

9   \let\footnote\V@footnote%
10  \let\LWR@footnotetext\V@footnotetext% lwarp
11 }

```

\V@@footnotetext

Patches in a subset of lwarp's \LWR@footnotetext to the fancyrb version of \V@@footnotetext.

```

12 \def\V@@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```

14 \LWR@newautopagelabel{page}%

```

Take the current footnote box, then append:

```

15 \global\setbox\LWR@footnotebox=\vbox\bgroup%

```

Add to any current footnotes:

```

16 \unvbox\LWR@footnotebox%

```

Remember the footnote number for \ref:

```

17 \protected@edef\@currentlabel{%
18   \csname p@footnote\endcsname\@thefnmark%
19 }% @currentlabel

```

Use HTML superscripts in the footnote even inside a lateximage:

```

20 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```

21 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

```

Append the footnote mark to the list:

```

22 \@makefntext{}%

```

The footnote text will follow after \V@@@footnotetext has completed.

```

23 \bgroup%
24 \aftergroup\V@@@footnotetext%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

25 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%

```

```

26 \ignorespaces%
27 }%

```

\V@@@footnotetext

```

28 \def\V@@@footnotetext{%
29   \LWR@origtilde\LWR@orignewline%
30   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
31   \strut\egroup%
32 }

```

```

33 \preto\FVB@Verbatim{\LWR@forcenewpage}

```

```

34 \preto\FVB@LVerbatim{\LWR@forcenewpage}

```

```

35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

36 \def\FV@BeginListFrame@Single{%
37   \FV@SingleFrameLine{\z}%
38 }
39
40 \def\FV@EndListFrame@Single{%
41   \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45   \FV@SingleFrameLine{\z}%
46 }
47
48 \def\FV@EndListFrame@Lines{%
49   \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*\FV@SingleFrameSep{}
```

Adds HTML formatting:

```

53 \def\FV@BUseVerbatim#1{%
54   \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }
```

`\LWR@FVstyle` Holds the style of the verbatim.

```

56 \newcommand*\LWR@FVstyle{}
```

The following patches to `Verbatim` are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```

57 \newcommand*\LWR@fvstartnone{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{
60 \BlockClass[\LWR@FVstyle]{fancyvrb}
61 \LWR@stoppars
62 \ifx\FV@LabelPositionTopLine\relax\else
63   \ifx\FV@LabelBegin\relax\else
64     \FancyVerbRuleColor{\LWR@FVfindbordercolor}
65     \LWR@htmltagc{%
66       div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
67       style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
68     }
69     \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
70     \LWR@htmltagc{/div}\LWR@orignewline%
71   \fi
72 \fi
73 \LWR@atbeginverbatim{verbatim}%
74 % }%
75 }
76
77 \newcommand*\LWR@fvendnone{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{
80 \LWR@afterendverbatim%
```

```

81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else
83   \ifx\FV@LabelEnd\relax\else
84     \FancyVerbRuleColor{\LWR@FVfindbordercolor}
85     \LWR@htmltagc{%
86       div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
87       style=\textquotedbl{}color:\LWR@origpound\LWR@tempcolor\textquotedbl%
88     }
89     \LWR@print@textrm{\FV@LabelEnd}
90     \LWR@htmltagc{/div}\LWR@orignewLine%
91   \fi
92 \fi
93 \endBlockClass
94 }
95
96 \newcommand*\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107
108 \newcommand*\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the fancyvrb package.

```

122 \newcommand*\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%

```

```

137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%
146 \renewcommand*{\LWR@FVstyle}{%
147   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148   \LWR@FVborderstyle{}}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingle%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158   \LWR@FVborderstyle{-top}%
159   \LWR@indentHTMLtwo%
160   \LWR@FVborderstyle{-bottom}}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170   \LWR@FVborderstyle{-top}}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180   \LWR@FVborderstyle{-bottom}}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

186 \def\FV@FrameFillLine{}%

187 \def\FV@Frame@leftline{%
188 \renewcommand*{\LWR@FVstyle}{%
189   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190   \LWR@FVborderstyle{-left}}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)

```

```

193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 \@tempdima\FV@FrameRule\relax%
197 \multiply\@tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}%
200 \kern-\number\@tempdima sp}}%
201 \fi%
202 \let\FV@BeginListFrame\LWR@fvstartnone%
203 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
204 \let\FV@RightListFrame\relax%
205 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the fancyvrb package.

```

206 \def\FV@SingleFrameLine#1{%
207 % \hbox to\z@{%
208 % \kern\leftmargin
209 % \ifnum#1=\z@\relax
210 % \let\FV@Label\FV@LabelBegin
211 % \else
212 % \let\FV@Label\FV@LabelEnd
213 % \fi
214 % \ifx\FV@Label\relax
215 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
216 % \else
217 % \ifnum#1=\z@
218 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
219 % \ifx\FV@LabelPositionTopLine\relax
220 % \else
221 % \fi
222 % \else
223 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
224 % \ifx\FV@LabelPositionBottomLine\relax
225 % \else
226 % \fi
227 % \fi
228 % \fi
229 % \hss
230 % }
231 }

```

Processes each line, adding optional line numbers. Original code is from the fancyvrb package.

```

232 \def\FV@ListProcessLine#1{%
233 \hbox to \hsiz{%
234 % \kern\leftmargin
235 % \hbox to \VerbatimHTMLWidth {%
236 % \ifcvoid{FV@LeftListNumber}{\kern 2.5em}%
237 % \FV@LeftListNumber%
238 % \FV@LeftListFrame
239 % \FancyVerbFormatLine{#1}%
240 % \hss%
241 % \FV@RightListFrame
242 % \FV@RightListNumber%
243 % }%

```

```

244     \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 %   \hbox{%
249   \ifvoid\@labels\else
250     \hbox to \z@\kern\@totalleftmargin\box\@labels\hss}%
251   \fi
252   \FV@ListProcessLine{#1}%
253 %   }%
254 %   \let\FV@ProcessLine\FV@ListProcessLine@ii%
255 }

256 \def\FV@ListProcessLastLine{}

```

### BVerbatim (*enu*)

```

257
258 \xpretocmd{\FV@BeginVBox}
259   {%
260     \LWR@forcenewpage% instead of \preto
261     \LWR@atbeginverbatim{bverbatim}%
262   }
263   {}
264   {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
265
266 \xapptocmd{\FV@EndVBox}
267   {%
268     \LWR@afterendverbatim%
269   }
270   {}
271   {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

---

File 156 **lwarp-fbox.sty**

§ 265 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

fbox (*Pkg*) **fbox** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2022/02/20]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*\orig@fbox{\FBox@i[tblr]}
```

\WR@fboxpkg@border

{\langle 1: top/bottom/left/right\rangle} {\langle 2: t/b/l/r\rangle} {\langle 3: padding, or empty\rangle}

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*\LWR@fboxpkg@border}[3]{%
5   \colorlet{LWR@border@color}{\csuse{fbox@#2color}}%
6   \protect\convertcolorspec{named}{LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7   \appto\LWR@tempone{%
8     border-#1: % space
9     \LWR@printlength{LWR@atleastonept} % space
10    solid \LWR@origpound%
11  }%
12 \expandafter\appto\expandafter\LWR@tempone\expandafter{LWR@tempbordercolor}%
13 \appto\LWR@tempone{ ;\LWR@indentHTML}%
14 \ifblank{#3}{}%
15   \appto\LWR@tempone{%
16     padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17   }%
18 }%
19 }
```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{LWR@fboxpkg@ispar}
21 \boolfalse{LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```

22 \newcommand{LWR@fboxpkg@lrpadding}[1]{%
23   \csuse{if@fbox@space@#1}%
24   \appto\LWR@tempone{%
25     padding-#1: \LWR@printlength{fbox@@sep};\LWR@indentHTML
26   }
27 \else%
28   \appto\LWR@tempone{%
29     padding-#1: 0pt;\LWR@indentHTML
30   }
31 \fi%
32 }
```

The HTML version, modified to use HTML styles and either an \InlineClass or BlockClass:

```

33 \newcommand{LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```

34   \LWR@forceminwidth{fbox@@rule}%
35   \LWR@findcurrenttextcolor%
36   \def\LWR@tempone{%
37     color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38     margin: 1ex ; \LWR@indentHTML
39   }%
```

Add left/right padding:

```

40   \LWR@fboxpkg@lrpadding{left}%
41   \LWR@fboxpkg@lrpadding{right}%
```



Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43   \advance\@tempcntb by -8\relax
44   \LWR@fboxpkg@border{top}{t}{\fbox@sep}%
45 \fi
46 \ifnum\@tempcntb>3
47   \advance\@tempcntb by -4\relax
48   \LWR@fboxpkg@border{left}{l}{}%
49 \fi
50 \ifnum\@tempcntb>1\relax
51   \LWR@fboxpkg@border{right}{r}{}%
52 \fi
53 \ifodd\@tempcntb
54   \LWR@fboxpkg@border{bottom}{b}{\fbox@sep}%
55 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

56 \color@begingroup
57 \ifbool{LWR@fboxpkg@ispar}%
58   {%
59     \begin{BlockClass}[LWR@tempone]{fboxpkg}%
60     #1%
61     \end{BlockClass}%
62   }%
63   {%
64     \InlineClass[LWR@tempone]{fboxpkg}{%
65     #1%
66     }%
67   }%
68 \color@endgroup
69 \boolfalse{LWR@fboxpkg@ispar}% globally
70 }
71 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73   \booltrue{LWR@fboxpkg@ispar}%
74   \FBox@i[#1]{#2}
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79   \booltrue{LWR@fboxpkg@ispar}%
80   \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}]}
85 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

File 157 **lwarp-fewerfloatpages.sty**

§ 266 Package **fewerfloatpages**

fewerfloatpages (*Pkg*) fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

---

File 158 **lwarp-figcaps.sty**

§ 267 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

figcaps (*Pkg*) figcaps is ignored.

**for HTML output:** Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

---

File 159 **lwarp-figsize.sty**

§ 268 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

figsize (*Pkg*) figsize is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
```

---

```

6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 160 **lwarp-fitbox.sty**

§ 269 Package **fitbox**

`fitbox (Pkg)` `fitbox` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3   \begin{BlockClass}{fitbox}
4     #3
5   \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][[]]{}

```

---

File 161 **lwarp-fix2col.sty**

§ 270 Package **fix2col**

`fix2col (Pkg)` `fix2col` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]


---

File 162 **lwarp-fixmath.sty**

§ 271 Package **fixmath**

*(Emulates or patches code by WALTER SCHMIDT.)*

`fixmath (Pkg)` `fixmath` is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

```

5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```


---

File 163 **lwarp-fixme.sty**

§ 272 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

`fixme (Pkg)` `fixme` is patched for use by `lwarp`.

 **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}

```

**for HTML output:** `1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]`

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by `lwarp`:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6   \hypertocfloat{1}{fixme}{lox}%
7   {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8   {#2}
9 }

```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15   \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16   {\@fxttextstd{#1}{#2}{#3}}%
17 }
18

```

```

19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23   \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30   \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsignature[1]{%
38   \ifthenelse{\equal{#1}{}}%
39     {}%
40     { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47   \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50 }% \AtBeginDocument

```

---

File 164 **lwarp-fixmetodonotes.sty**

§ 273 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

fixmetodonotes (*Pkg*) **fixmetodonotes** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

```

2 \renewcommand{\NOTES@addtolist}[2]{%
3   \refstepcounter{NOTES@note}%
4 %   \phantomsection% REMOVED
5   \addcontentsline{notes}{NOTES@note}{%
6     \protect\numberline{\theNOTES@note}{#1}: {#2}}%
7   }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11   \textcolor{#2}{% WAS \color
12     \textbf{#1}}}%
13   }}
14
15 \renewcommand{\NOTES@colorline}[2]{%

```

```

16 \bgroup%
17   \ULon{\LWR@backgroundcolor{#1}{#2}}%
18 }

```

---

File 165 **lwarp-flafter.sty**

§ 274 Package **flafter**

`flafter (Pkg)` flafter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]  
2 \providecommand\fl@trace[1]{}

---

File 166 **lwarp-flippdf.sty**

§ 275 Package **flippdf**

`flippdf (Pkg)` flippdf is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]  
2 \newcommand\FlipPDF{}  
3 \newcommand\UnFlipPDF{}

---

File 167 **lwarp-float.sty**


§ 276 Package **float**

*(Emulates or patches code by ANSELM LINGNAU.)*

`float (Pkg)` float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: `plain`, `plaintop`, `boxed`, or `ruled`, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

 **not seem to be a floating environment** Always declare a `\newfloat` before modifying it with `\floatname`, etc.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

`\LWR@floatstyle` The default float style.

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

`\newfloat``{<1: type>} {<2: placement>} {<3: ext>} [ <4: within >]`Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```

3 \NewDocumentCommand{\newfloat}{m m m o}{%
4   \IfValueTF{#4}%
5     {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6     {\DeclareFloatingEnvironment[fileext=#3]{#1}}%

```

Remember the float style:

```
7   \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

8   \cslet{listof#1s}\relax%
9   \cslet{listof#1es}\relax%

```

Likesize, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```

10  \cslet{l@#1}\relax%
11 }

```

`\floatname``{<type>} {<name>}`Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```

12 \NewDocumentCommand{\floatname}{m +m}{%
13   \def\LWR@tempone{#2}%
14   \def\LWR@temptwo{\@nameuse{#1name}}%
15   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
16     \SetupFloatingEnvironment{#1}{name=#2}%
17   }%
18 }

```

`\floatplacement``{<type>} {<placement>}`

Float placement is ignored.

```

19 \newcommand*{\floatplacement}[2]{%
20   \SetupFloatingEnvironment{#1}{placement=#2}%
21 }

```

`\floatstyle``{<style>}`

Remember the style for future floats:

```

22 \newcommand{\floatstyle}[1]{%
23   \def\LWR@floatstyle{#1}%
24 }%

```

`\restylefloat``* {<type>}`

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26   \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }

```

`\listof`See section 78.2 for the `\LWR@listof` command in the `lwarp` core.

```
28 \newcommand{\listof}{\LWR@listof}
```

---

File 168 **lwarp-floatflt.sty**§ 277 Package **floatflt***(Emulates or patches code by MATS DAHLGREN.)*`floatflt (Pkg)` `floatflt` is emulated.**for HTML output:** Discard all options for `lwarp-floatflt`:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env `[<>]`offset `{<type>}{<width>}` Borrowed from the `lwarp` version of `keyfloat`:

```
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4   \begin{LWR@setvirtualpage}*%
5   \ifblank{#3}{%
6     \LWR@BlockClassWP{%
7       float:right; %
8       width: 1.5in; % reasonable dummy width for word processor
9       margin:10pt%
10    }{%
11    (note)%
12    {marginblock}%
13   }{%
14   \setlength{\LWR@templengthone}{#3}%
15   \LWR@BlockClassWP{%
16     float:right; %
17     width:\LWR@printlength{\LWR@templengthone}; % extra space
18     margin:10pt%
19   }{%
20     width:\LWR@printlength{\LWR@templengthone}%
21   }%
22   (note)%
23   {marginblock}%
24 }%
25 \renewcommand*{\@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{LWR@setvirtualpage}%
30 }
```

Env `floatingfigure``[<placement>]{<width>}`

```
31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}
```

Env `floatingtable``[<placement>]`

```
34 \DeclareDocumentEnvironment{floatingtable}{o}
```



```

35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}

```

---

File 169 **lwarp-floatpag.sty**

§ 278 Package **floatpag**

*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

floatpag (*Pkg*) floatpag is ignored.

**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

---

File 170 **lwarp-floatrow.sty**

§ 279 Package **floatrow**

*(Emulates or patches code by OLGA LAPKO.)*

floatrow (*Pkg*) floatrow is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section [8.10.1](#).

⚠ **subfig package** When combined with the subfig package, while inside a subfloatrow `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight** The emulation of floatrow does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. lwarp will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```

2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \IfPackageLoadedTF{subcaption}
6   {\booltrue{LWR@subcaptionloaded}}
7   {\boolfalse{LWR@subcaptionloaded}}
8 }

```

\floatbox

```

[⟨1 preamble⟩] {⟨2 captype⟩} [⟨3 width⟩] [⟨4 height⟩] [⟨5 vert pos⟩] {⟨6
caption⟩} {⟨7 object⟩}

```

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```

9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption

```

For subcaption:

```

12   \ifbool{LWR@insubfloatrow}%
13   {% subcaption in a subfloatrow

```

subfigure and subtable environments take width as an argument.

```

14       \IfValueTF{#3}%
15       {\@nameuse{sub#2}{#3}}%
16       {\@nameuse{sub#2}{\linewidth}}%
17   }% subcaption in a subfloatrow
18   {% subcaption not in subfloatrow

```

figure and table environments do not take a width argument.

```

19       \@nameuse{#2}%
20   }% subcaption not in subfloatrow
21   #6
22
23   #7

```

End the environments:

```

24   \ifbool{LWR@insubfloatrow}%
25   {\@nameuse{endsub#2}}%
26   {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31   \begingroup
32   \let\caption\@firstofone
33   \subfloat[#6]{#7}
34   \endgroup
35 }% subfig in a subfloatrow

```

36 {% subfig package, but not a subfig

figure and table are environments:

```
37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }
```

Not used:

```
45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength\FBwidth
49 \setlength\FBwidth{.3\linewidth}
50 \newlength\FBheight
51 \setlength\FBheight{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand\floatsetup[2][{}
54 \newcommand\thisfloatsetup[1]{
55 \newcommand\clearfloatsetup[1]{
56 \newcommand*\killfloatstyle{}
```

`\newfloatcommand`       $\langle 1 \text{ command} \rangle \langle 2 \text{ capttype} \rangle [\langle 3 \text{ preamble} \rangle [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```
57 \NewDocumentCommand\newfloatcommand{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }
```

`\renewfloatcommand`       $\langle 1 \text{ command} \rangle \langle 2 \text{ capttype} \rangle [\langle 3 \text{ preamble} \rangle [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```
62 \NewDocumentCommand\renewfloatcommand{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }
```

`\ffigbox`       $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \langle caption \text{ commands} \rangle \langle contents \rangle$

```
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][
```

`\ttabbox`       $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \langle caption \text{ commands} \rangle \langle contents \rangle$

```
68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]
```

`\fcapside`       $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \langle caption \text{ commands} \rangle \langle contents \rangle$

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][
```

Env floatrow

[*<numfloats>*]The row of floats is placed into a `<div>` of class `floatrow`.

```

70 \newenvironment*{floatrow}[1][2]
71 {%
72   \begin{LWR@setvirtualpage}*%
73   \BlockClass{floatrow}%
74 }
75 {
76   \endBlockClass%
77   \end{LWR@setvirtualpage}%
78 }

```

Keys for `\DeclareNewFloatType`:

```

79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

`\DeclareNewFloatType`*<type>* {*<options>*}Use `\listof{type}{Title}` to print a list of the floats.

```

90 \newcommand*{\DeclareNewFloatType}[2]{%

```

Reset key values:

```

91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }%
100 {%
101   \DeclareFloatingEnvironment[
102     placement=\LWR@frowkeyplacement,
103     fileext=\LWR@frowkeyfileext
104   ]{#1}%
105 }%
106 {%
107   \DeclareFloatingEnvironment[
108     placement=\LWR@frowkeyplacement,
109     fileext=\LWR@frowkeyfileext,
110     within=\LWR@frowkeywithin
111   ]{#1}%
112 %   \LWR@traceinfo{finished newfloat #1}%

```

113 }%

Rename the float if a name was given:

```
114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115   {}%
116   {%
117     \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118   }%
119 }
```

Not used:

```
120 \newcommand{\buildFBBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption

{*text*}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot

{*text*}

Places additional text inside a float, inside a css <div> of class floatfoot.

```
130 \NewDocumentCommand{\floatfoot}{s +m}{%
131   \begin{BlockClass}{floatfoot}
132   #2
133   \end{BlockClass}
134 }
```

Used to compute \linewidth.

```
135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}
```

Env subfloatrow

[*num\_floats*]

```
137 \newenvironment*{subfloatrow}[1][2]
138 {
```

The row of floats is placed into a <div> of class floatrow:

```
139   \LWR@forcenewpage
140   \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```
141   \begingroup%
142   \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145   \endgroup%
```

```

146   \endBlockClass%
147   \boolfalse{LWR@insubfloatrow}%
148 }

```

---

File 171 **lwarp-fltrace.sty**

§ 280 Package **fltrace**

`fltrace` (*Pkg*) `fltrace` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

File 172 **lwarp-flushend.sty**

§ 281 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

`flushend` (*Pkg*) `flushend` is ignored.

**for HTML output:** Discard all options for `lwarp-flushend`:

```

1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newtoks\atColsBreak \atColsBreak={ }
7 \newtoks\atColsEnd \atColsEnd={ }
8 \newcommand*\showcolsendrule{}

```

---

File 173 **lwarp-fnbreak.sty**

§ 282 Package **fnbreak**

`fnbreak` (*Pkg*) `fnbreak` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknolabel{}

```

---

File 174 **lwarp-fncychap.sty**

§ 283 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

fncychap (*Pkg*) fncychap is ignored.

**for HTML output:** Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 175 **lwarp-fnlineno.sty**

§ 284 Package **fnlineno**

fnlineno (*Pkg*) fnlineno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 176 **lwarp-fnpara.sty**

§ 285 Package **fnpara**

fnpara (*Pkg*) fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 177 **lwarp-fnpos.sty**

§ 286 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

fnpos (*Pkg*) **fnpos** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}
```

---


File 178 **lwarp-fontawesome.sty**

§ 287 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

fontawesome (*Pkg*) **fontawesome** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using PDF L<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For PDF L<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol[1]{%
9   \LWR@findcurrenttextcolor%
10  \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11    \csuse{\LWR@font@size}%
12    \LWR@orig@FA%
13    \LWR@orig@symbol{#1}%
14    \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{}{}%
```



```

18 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20
21 \else
22
23 \newcommand*\LWR@fontawesome@symbolX}[2]{%
24   \LWR@findcurrenttextcolor%
25   \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26   \csuse{\LWR@font@size}%
27   \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28   \LWR@orig@symbol{#1}%
29   \end{lateximage}%
30 }
31
32 \newcommand*\LWR@fontawesome@symbolone}[1]{%
33   \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*\LWR@fontawesome@symboltwo}[1]{%
37   \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*\LWR@fontawesome@symbolthree}[1]{%
41   \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45   \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49   \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53   \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 179 **lwarp-fontawesome5.sty**

§ 288 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5 (*Pkg*) fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4   \LWR@findcurrenttextcolor
5   \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{

```

---

```

6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}
8 \exp_last_unbraced:Nv
9 \__fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 180 **lwarp-fontaxes.sty**

§ 289 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

*fontaxes* (*Pkg*) **fontaxes** is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the **lwarp** core. Swashes and figure styles are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

```

2 \ifdef{\LWR@HTML@swshape}{}{% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\@empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 181 **lwarp-fontenc.sty**

§ 290 Package **fontenc**

*fontenc* (*Pkg*) If using PDF L<sup>A</sup>T<sub>E</sub>X, **lwarp** used to require **fontenc** be loaded before **lwarp**, but now **lwarp** itself loads **\fontenc** with T1 encoding, which **lwarp** requires. **fontenc** is now allowed to be loaded with another encoding after **lwarp**.

**lwarp-fontenc** is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

File 182 **lwarp-footmisc.sty**

§ 291 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

footmisc (*Pkg*) footmisc is emulated.

lwarp incidentally happens to emulate the stable option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}
```

Using `cleveref`. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20   \@ifnextchar[%
21     \@xmpfootnotemark%
22     {%
23       \stepcounter\@mpfn%
24       \protected@xdef\@thefnmark{\thempfn}%
25       \@footnotemark%
26     }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\@mpfn\endcsname #1\relax%
31   \unrestored@protected@xdef\@thefnmark{\thempfn}%
32   \endgroup%
33   \@footnotemark%
34 }
```

File 183 **lwarp-footnote.sty**

§ 292 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

footnote (*Pkg*) footnote is used with minor patches.

**for HTML output:** footnote patches `\@makefn`text in a strange way. It must be restored to the expected definition before loading footnote, then replaced again after.

```

1 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~{#1}}

6 \def\spewnotes{%
7   \endgroup%
8   \if@savingnotes\else\ifvoid\fn@notes\else\beginngroup%
9     \let\@makefn\@empty%
10    \let\@finalstrut\@gobble%
11    \let\rule\@gobbletwo%
12    \booltrue{LWR@spewingnotes}%          lwarp
13    \@footnotetext{\unvbox\fn@notes}%
14  \endgroup\fi\fi%
15 }
16 \let\endsavenotes\spewnotes
17
18
19 \def\fn@fntext#1{%
20   \ifx\ifmeasuring@\@undefined%
21     \expandafter\@secondoftwo\else\expandafter\@iden%
22     \fi%
23   {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
24   {%
25     \global\setbox\fn@notes\ vbox{%
26       \unvbox\fn@notes%
27       \LWR@htmltagc{\LWR@tagregularparagraph}%    lwarp
28       \LWR@originewline%                          lwarp
29       \fn@startnote%
30       \@makefn#1%
31       \rule\z@\footnotesep%
32       \ignorespaces%
33       #1%
34       \@finalstrut\strutbox%
35     }%
36     \fn@endnote%
37   }%
38 }%
39 }

```

Removed print-version formatting:

```
40 \def\fn@startnote{%
```

```

41 % \@parboxrestore%
42 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
43 % \color@begingroup% *** conflicts with lwarp
44 }
45
46 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
47 \def\fn@endnote{%
48   \LWR@origtilde\LWR@orignewline%
49   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
50   \LWR@origtilde\LWR@orignewline%
51 }

```

Removed print-version formatting:

```

52 \def\fn@startfntext{%
53   \setbox\z@\vbox\bgroup%
54   \LWR@htmltagc{\LWR@tagregularparagraph}%   lwarp
55   \LWR@orignewline%                         lwarp
56   \fn@startnote%
57   \fn@prefntext% Req'd for numbering.
58 %   \rule\z@\footnotesep%
59   \ignorespaces%
60 }
61

```

Removed print-version formatting, added closing paragraph tag:

```

62 \def\fn@endfntext{%
63   \fn@postfntext%
64   \LWR@origtilde\LWR@orignewline%
65   \LWR@htmltagc{/\LWR@tagregularparagraph}%
66   \LWR@orignewline%
67   \egroup%
68   \begingroup%
69   \let\@makefntext\@empty%
70   \let\@finalstrut\@gobble%

71   \LetLtxMacro\rule\@gobbletwo%
72   \booltrue{LWR@spewingnotes}%   lwarp
73   \@footnotetext{\unvbox\z@}%
74   \endgroup%
75 }

```

These have been redefined, so re-\let them again:

```

76 \let\endfootnote\fn@endfntext
77 \let\endfootnotetext\endfootnote

```

---

File 184 **lwarp-footnotebackref.sty**

§ 293 Package **footnotebackref**

footnotebackref (*Pkg*) footnotebackref is ignored.

**for HTML output:** 1\LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 185 **lwarp-footnotehyper.sty**

§ 294 Package **footnotehyper**

footnotehyper (*Pkg*) footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 186 **lwarp-footnoterange.sty**

§ 295 Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

footnoterange (*Pkg*) footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 187 **lwarp-footnpag.sty**

§ 296 Package **footnpag**

footnpag (*Pkg*) footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 188 **lwarp-foreign.sty**

§ 297 Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

foreign (*Pkg*) foreign is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

```
2 \renewcommand\foreignabbrfont{\emph}
```


---

File 189 **lwarp-forest.sty**

§ 298 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

forest (*Pkg*) **forest** is patched for use by **lwarp**.

 **\Forest\*** The starred version of the macro **\Forest\*** is not supported. **lwarp** encases each **lateximage** in an environment, so the global results of the starred **\Forest\*** are lost.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{forest}[2017/07/14]
2 \BeforeBeginEnvironment{forest}{%
3   \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9   \forest@config{#2}%
10  \IfBooleanTF{#1}{%
11    \PackageError{lwarp-forest}%
12      {\protect\Forest* is not supported}%
13      {Lwarp uses an environment for images,\MessageBreak
14        but \protect\Forest* cannot work in an environment.}%
15    \let\forest@next\forest@env%
16  }{\let\forest@next\forest@group@env}%
17  \begin{lateximage}[-forest-~\PackageDiagramAltText]   lwarp
18  \forest@next{#3}%
19  \end{lateximage}   lwarp
20 }
```

---

File 190 **lwarp-fouridx.sty**

§ 299 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

fouridx (*Pkg*) **fouridx** works as-is with **svg math**, and is emulated for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]
2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourIdx}[5]{%
5     \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{#4}%
6   }%
7 }
8 \end{warpMathJax}
```

File 191 **lwarp-fourier.sty**

§ 300 Package **fourier**

*(Emulates or patches code by MICHEL BOVANI.)*

`fourier (Pkg)` `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}
11   {
12     \LWR@mathjax@addgreek@l@up{other}{}
13     \LWR@mathjax@addgreek@u@it*{other}{}
14   }% sloped
15   {% not sloped
16     \IfPackageLoadedWithOptionsTF{fourier}{upright}
17     {% upright option
18       \LWR@mathjax@addgreek@l@up{other}{}
19       \LWR@mathjax@addgreek@u@up*{other}{}
20       \LWR@mathjax@addgreek@l@it{other}{}
21       \LWR@mathjax@addgreek@u@it*{other}{}
22     }
23     {% neither sloped nor upright
24       \LWR@mathjax@addgreek@l@up{other}{}
25       \LWR@mathjax@addgreek@u@it*{other}{}
26     }
27   }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

`lwarp_mathjax.txt` adds `\left/\right` support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}

```



```

36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45   \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xsworddown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

---

File 192 **lwarp-framed.sty**

§ 301 Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

framed (*Pkg*) **framed** is supported and patched by **lwarp**.

**for HTML output:** Accept all options for **lwarp-framed**:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6   \LWR@forcenewpage
7   \BlockClass{framed}%
8 }
9 {\endBlockClass}
10
11 \renewenvironment{oframed}
12 {%
13   \LWR@forcenewpage
14   \BlockClass{framed}%
15 }

```

```

16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22   \LWR@forcenewpage
23   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30   \LWR@forcenewpage
31   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37   \LWR@forcenewpage
38   \BlockClass{framedleftbar}
39   \def\FrameCommand{}%
40   \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48   \LWR@forcenewpage
49   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56   \LWR@forcenewpage
57   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66   \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
67 }

\CustomFBox

    {\langle toptitle \rangle} {\langle bottitle \rangle} {\langle thicknessstop \rangle} {\langle bottom \rangle} {\langle left \rangle} {\langle right \rangle} {\langle text
    contents \rangle}

68 \renewcommand{\CustomFBox}[7]{%
69   \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70   \LWR@forcenewpage

```

```

71 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72 \ifthenelse{\isempty{#1}}{\}{% not empty
73 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74 \textcolor{TFTitleColor}{\textbf{#1}}%
75 \end{BlockClass}%
76 }% not empty
77
78 #7
79
80 \ifthenelse{\isempty{#2}}{\}{% not empty
81 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
82 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83 \textcolor{TFTitleColor}{\textbf{#2}}%
84 \end{BlockClass}%
85 }% not empty
86 \end{BlockClass}%
87 }

```

```

\TitleBarFrame      [marker] {title} {contents}

88 \renewcommand\TitleBarFrame[3][]{%
89 \CustomFBox%
90 {#2}{%
91 \fboxrule\fboxrule\fboxrule\fboxrule%
92 {#3}%
93 }

94 \renewcommand{\TF@Title}[1]{#1}

```

```

Env MakeFramed      {settings}

95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }

```

```

\fb@put@frame      {frame cmd no split} {frame cmd split}

101 \renewcommand*\fb@put@frame[2]{%
102 \relax%
103 \@tempboxa%
104 }

```

---

File 193 **lwarp-froufrou.sty**

§ 302 Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

froufrou (*Pkg*) froufrou is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

2 \ExplSyntaxOn

```

3 \xpretocmd{\setfroufrou}
4   {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5   {}
6   {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \RenewDocumentCommand{\froufrou}{s O{}}{%
10  \nopagebreak[4]\par
11
12  \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
13
14  \nopagebreak[4]\@froufrouospacebefore\nopagebreak[4]
15
16  \bgroup
17   \setfroufrou{#2}%
18   \normalsize
19   \ifdefvoid{\setstretch}{\setstretch{\setstretch@inglespace}}% normally 1
20   \setlength{\parskip}{0pt}
21   \noindent\centering\bgroup%
22     \begin{center}%                               lwarp
23     \begin{lateximage}*[froufrou][\LWR@latestfroufrou]%   lwarp
24     \@froufrouOrnament%
25     \end{lateximage}%                               lwarp
26     \end{center}%                                   lwarp
27   \egroup\par
28 \egroup
29
30 \nopagebreak[4]\@froufrouospaceafter\nopagebreak[4]
31
32 \@froufrouFixSpacingAfter
33
34 \nopagebreak[3]
35
36 \@afterheading
37 }

```

---

File 194 **lwarp-ftcap.sty**

§ 303 Package **ftcap**

ftcap (*Pkg*) ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 195 **lwarp-ftnright.sty**

§ 304 Package **ftnright**

ftnright (*Pkg*) ftnright is ignored.

**for HTML output:** Discard all options for lwarp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 196 **lwarp-fullminipage.sty**

§ 305 Package **fullminipage**

fullminipage (*Pkg*) fullminipage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]  
2 \newenvironment{fullminipage}[1][{}]{}

---

File 197 **lwarp-fullpage.sty**

§ 306 Package **fullpage**

fullpage (*Pkg*) fullpage is ignored.

**for HTML output:** Discard all options for lwarp-fullpage:  
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]

---

File 198 **lwarp-fullwidth.sty**

§ 307 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

fullwidth (*Pkg*) fullwidth is emulated.

A minipage is used, of no HTML width.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]  
2 \newenvironment\*{fullwidth}[1][{}]{%  
3 \minipagefullwidth%  
4 \minipage{\linewidth}%  
5 }  
6 {%  
7 \endminipage%  
8 }

---

File 199 **lwarp-fvextra.sty**

§ 308 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

fvextra (*Pkg*) fvextra is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2022/11/30]

Ignored are `highlight`, `showtabs`, `obeytabs`, `tab`, `tabcolor`. Also ignored are all options regarding line breaking except `breaklines`, which is emulated as `true`.

`tabsize` is honored.

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```

2 \define@booleankey{FV}{obeytabs}%
3 % {\let\FV@ObeyTabsInit\FV@ObeyTabsInit}%
4 {\let\FV@ObeyTabsInit\relax}
5 {\let\FV@ObeyTabsInit\relax}
6
7 \define@key{FV}{tabcolor}%
8 {}
9
10 \define@key{FV}{tab}{}
11
12 \define@booleankey{FV}{showtabs}%
13 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
14 {\let\FV@TabChar\relax}
15 {\let\FV@TabChar\relax}
16
17 \newbool{LWR@FV@breaklines}
18
19 \define@booleankey{FV}{breaklines}%
20 {\boolfalse{FV@breaklines}
21 \booltrue{LWR@FV@breaklines}
22 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
23 {\boolfalse{FV@breaklines}
24 \boolfalse{LWR@FV@breaklines}
25 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
26 % \fvset{breaklines}
27
28 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
29 \fvset{breakanywheresymbolpre={}}
30
31 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
32 \fvset{breakanywheresymbolpost={}}
33
34 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
35 \fvset{breakbeforesymbolpre={}}
36
37 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
38 \fvset{breakbeforesymbolpost={}}
39
40 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
41 \fvset{breakaftersymbolpre={}}
42
43 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
44 \fvset{breakaftersymbolpost={}}
45
46 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
47
48 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
49
50 \fvset{breaksymbolleft={}}
51
52 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
53 \fvset{breaksymbolright={}}

```

```

54
55 \def\FV@ListProcessLine@NoBreak#1{%
56%   \hbox to \hsize{%
57%     \kern\leftmargin
58%     \hbox to \linewidth{%
59%       \FV@LeftListNumber%
60%       \FV@LeftListFrame%
61%       \FancyVerbFormatLine{%
62%         \FancyVerbHighlightLine{%
63%           \FV@ObeyTabs{\FancyVerbFormatText{#1}}}%\hss
64%       \FV@RightListFrame%
65%       \FV@RightListNumber%
66%     }%
67%   \hss}%
68 \null\par%           lwarp
69 }
70
71
72 \newcommand*\LWR@FV@linethensep{%
73   \ifbool{LWR@FV@breaklines}%
74     {\theFancyVerbLine\kern\FV@NumberSep}%
75     {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
76 }
77
78 \newcommand*\LWR@FV@sephenline{%
79   \ifbool{LWR@FV@breaklines}%
80     {\kern\FV@NumberSep\theFancyVerbLine}%
81     {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
82 }
83
84 \xpatchcmd{\FV@Numbers@left}
85   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
86   {\LWR@FV@linethensep}
87   {}
88   {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
89
90 \xpatchcmd{\FV@Numbers@left}
91   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
92   {\LWR@FV@linethensep}
93   {}
94   {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
95
96 \xpatchcmd{\FV@Numbers@left}
97   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
98   {\LWR@FV@linethensep}
99   {}
100  {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
101
102 \xpatchcmd{\FV@Numbers@right}
103   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
104   {\LWR@FV@sephenline}
105   {}
106   {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
107
108 \xpatchcmd{\FV@Numbers@right}
109   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
110   {\LWR@FV@sephenline}
111   {}
112   {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
113

```

```

114 \xpatchcmd{\FV@Numbers@right}
115   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
116   {\LWR@FV@linethensep}
117   {}
118   {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
119
120 \xpatchcmd{\FV@Numbers@both}
121   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
122   {\LWR@FV@linethensep}
123   {}
124   {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
125
126 \xpatchcmd{\FV@Numbers@both}
127   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
128   {\LWR@FV@linethensep}
129   {}
130   {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
131
132 \xpatchcmd{\FV@Numbers@both}
133   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
134   {\LWR@FV@linethensep}
135   {}
136   {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
137
138 \xpatchcmd{\FV@Numbers@both}
139   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
140   {\LWR@FV@sephenline}
141   {}
142   {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
143
144 \xpatchcmd{\FV@Numbers@both}
145   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
146   {\LWR@FV@sephenline}
147   {}
148   {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
149
150 \xpatchcmd{\FV@Numbers@both}
151   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
152   {\LWR@FV@linethensep}
153   {}
154   {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

---

File 200 **lwarp-fwlw.sty**

§ 309 Package **fwlw**

fwlw (*Pkg*) **fwlw** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fwlw}

```

2 \newbox\FirstWordBox      \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox      \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox      \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```



---

File 201 **lwarp-gensymb.sty**

§ 310 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

gensymb (*Pkg*) gensymb works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}
```

---

File 202 **lwarp-gentombow.sty**

§ 311 Package **gentombow**

gentombow (*Pkg*) gentombow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

```
2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 203 **lwarp-geometry.sty**

§ 312 Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

geometry (*Pkg*) geometry is preloaded by lwarp, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for lwarp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If geometry is never loaded by the user, it will be loaded by lwarp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@current}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry}[1]{}
7 \renewcommand*\newgeometry}[1]{}
8 \renewcommand*\restoregeometry{}
9 \renewcommand*\savegeometry}[1]{}
10 \renewcommand*\loadgeometry}[1]{}

```

File 204 **lwarp-ghsystem.sty**

§ 313 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

`ghsystem (Pkg)` `ghsystem` is patched for use by `lwarp`.

⚠ `\ghspic images` Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF `ghsystem` images, and then convert them with

```
Enter ⇒ lwarpmk pdftosvg images/*.pdf
```

**for HTML output:** `1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]`

```
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9   \__ghsystem_includegraphics:xn
10  {
11 %       scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12       width = 1.25cm
13       \exp_not:V \l__ghsystem_picture_includegraphics_tl
14     }
15     { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16  }
17
18 \ExplSyntaxOff
```

File 205 **lwarp-gindex.sty**

§ 314 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

`gindex (Pkg)` `gindex` is patched for use by `lwarp`.

See section [8.6.15](#).

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set `\AtBeginDocument` to allow the user to change them. They are then protected so that the `lwarp` core looks for the tokens instead of their expanded contents, since the `*.ind` files will contain `\indexpagesep` and `\indexrangesep` instead of their literal contents. Finally, `lwarp` is told of the `gindex` macros.

```
2 \AtBeginDocument{
3   \robustify{\indexpagesep}
4   \robustify{\indexrangesep}
5   \renewcommand*\IndexPageSeparator{\indexpagesep}
6   \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }
```

`\hyperindexref` is added:

```
8 \def\addindexitem#1#2{%
9   \indexflushitem
10  \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13   \stepcounter{indexsubitems}%
14  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}}
```

Uses a `<div>` of class `indexheading`:

```
18 \renewcommand\indexheading[1]{%
19   \begin{BlockClass}{indexheading}
20   \MakeUppercase{#1}%
21   \end{BlockClass}
22 }
```

---

File 206 **lwarp-gloss.sty**

§ 315 Package **gloss**

*(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)*

`gloss (Pkg)` `gloss` is patched for use by `lwarp`.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \xpatchcmd{\gls@gloss@iii}
3   {\thepage}
4   {\theLWR@previousautopagelabel}
5   {}
6   {\LWR@patcherror{gloss}{gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9   \endgroup%
10  \global\@namedef{gls@#1}{\nameref{\BaseJobname-autopage-#2}}}%

```

File 207 **lwarp-glossaries.sty**

§ 316 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

`glossaries` (*Pkg*) `lwarpmk` has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's `makeglossaries` program.


`GlossaryCmd` (*Opt*)

Default: `makeglossaries`

`printglossary` (*Opt*) [`lwarpmk`]

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

`htmlglossary` (*Opt*) [`lwarpmk`]

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```

\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}

```

*xindy* language To set the language to use for processing glossaries with *xindy*:

```

\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}

```

Other options for `makeglossaries` may be set as well.

[placement and toc options](#) The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```

\usepackage[xindy,toc,numberedsection= nolabel]{glossaries}
. . .
\printglossaries

```

**Unnumbered section, inline with the current HTML page:**

```

\usepackage[xindy,toc]{glossaries}
. . .
\printglossaries

```

**Unnumbered section, on its own HTML page:**

```

\usepackage[xindy,toc]{glossaries}
. . .
\ForceHTMLPage
\printglossaries

```

△ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

△ **number list** The page number list in the printed form would become `\namerrefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

**print/HTML versions** The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```

1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}

```

Patched to fix TOC pointing to the previous page:

```

7 \renewcommand*{\p@glossarysection}[2]{%
8   \glsclearpage
9   \LWR@phantomsection
10  \ifdefempty\@glossarysecstar
11  {%
12    \csname\@glossarysec\endcsname{#2}%
13  }%
14  {%

```

In the original, the TOC entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the TOC entry is made after the section is created:

```

15    \csname\@glossarysec\endcsname*{#2}%
16    \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17  }%
18  \@glossaryseclabel
19 }

```

`lwarp`'s sectioning commands cannot handle robust macros when splitting HTML into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

```

20 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
21
22 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
23   \translatelet\LWR@translatetemp{Glossary}
24   \edef\glossaryname{\LWR@translatetemp}
25 }{}
26
27 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
28
29 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
30   \translatelet\LWR@translatetemp{Acronym}
31   \edef\acronymname{\LWR@translatetemp}
32 }{}

```

```

33
34 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefstrequal{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
37   \translatelet\LWR@translatetemp{Symbols (glossaries)}}
38   \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*{\LWR@comp@glnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefstrequal{\glnumbersgroupname}{\LWR@comp@glnumbersgroupname}{
44   \translatelet\LWR@translatetemp{Numbers (glossaries)}}
45   \edef\glnumbersgroupname{\LWR@translatetemp}
46 }{}

```

---

File 208 **lwarp-gmeometric.sty**

§ 317 Package **gmeometric**

`gmeometric (Pkg)` `gmeometric` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

File 209 **lwarp-graphics.sty**

§ 318 Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

`graphics (Pkg)` `graphics` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

§ 318.1 **Graphics extensions**

`\DeclareGraphicsExtensions` `{\list}`

`\AtBeginDocument` allow SVG files instead of PDF:

```

2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }

```

Inside a `lateximage`, allow PDF instead of SVG:

```

7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12   \ifXeTeX

```

```

13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16     \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20     \fi
21 \fi

```

## § 318.2 Length conversions and graphics options



**whitespace**

A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*\LWR@igwidthstyle{}
25 \newcommand*\LWR@igheightstyle{}
26 \newcommand*\LWR@igorigin{}
27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale{1}
29 \newcommand*\LWR@igyyscale{1}
30
31 \newbool{\LWR@igkeepaspectratio}
32 \boolfalse{\LWR@igkeepaspectratio}
33
34 \newcommand*\LWR@igclass{inlineimage}
35 \newcommand*\LWR@igalt{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes em
46 {}% not em

```

```

47   \IfEndWith{#1}{\}%
48   {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes percent
49   }% not percent
50   \IfEndWith{#1}{px}%
51   {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes px
52   }% not px
53 }{}% end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%

```

Default to use the converted fixed length given:

```

59   \renewcommand*\LWR@igheightstyle}{%
60   height:\LWR@printlength{\LWR@igheight} % extra space
61   }%

```

If ex or em dimensions were given, use those instead:

```

62   \IfEndWith{#1}{ex}%
63   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
64   }% not ex
65   \IfEndWith{#1}{em}%
66   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
67   }% not em
68   \IfEndWith{#1}{\}%
69   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
70   }% not percent
71   \IfEndWith{#1}{px}%
72   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
73   }% not px
74 }{}% end of length > 0pt
75 }

```

Handle keepaspectratio key:

```

76 \define@key{igraph}{keepaspectratio}[false]{%
77   \booltrue{\LWR@igkeepaspectratio}%
78 }

```

Handle origin key:

```

79 \define@key{igraph}{origin}[c]{%
80   \renewcommand*\LWR@igorigin}{#1}%
81 }

```

Handle angle key:

```

82 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}

```

Handle class key:

```

83 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}

```



Handle alt key:

```
84 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}
```

It appears that **graphicx** does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
85 \define@key{igraph}{scale}{%
86   \ifthenelse{\equal{#1}{1}}{}{% must expand #1
87     \PackageNote{lwarp}{%
88       It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
89       instead of ‘‘[scale=yy]’’,%
90     }%
91   }%
92   \renewcommand*\LWR@igxscale}{#1}%
93   \renewcommand*\LWR@igyscale}{#1}%
94 }
```

Numerous ignored keys:

```
95 \define@key{igraph}{bb}{}
96 \define@key{igraph}{bblx}{}
97 \define@key{igraph}{bblly}{}
98 \define@key{igraph}{bburx}{}
99 \define@key{igraph}{bbury}{}
100 \define@key{igraph}{natwidth}{}
101 \define@key{igraph}{natheight}{}
102 \define@key{igraph}{hiresbb}[true]{}
103 \define@key{igraph}{viewport}{}
104 \define@key{igraph}{trim}{}
105 \define@key{igraph}{totalheight}{}
106 \define@key{igraph}{clip}[true]{}
107 \define@key{igraph}{draft}[true]{}
108 \define@key{igraph}{type}{}
109 \define@key{igraph}{ext}{}
110 \define@key{igraph}{read}{}
111 \define@key{igraph}{command}{}

```

New in v1.1a:

```
112 \define@key{igraph}{quite}{}
113 \define@key{igraph}{page}{}
114 \define@key{igraph}{pagebox}{}
115 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```
116 \define@key{igraph}{decodearray}{}

```

### § 318.3 Printing HTML styles

`\LWR@rotstyle`

`{\langle prefix \rangle}{\langle degrees \rangle}`

Prints the rotate style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:rotate` style.

```
117 \newcommand*\LWR@rotstyle[2]{%
118   \edef\LWR@tempone{#2}%
119   \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120   #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }
```

`\LWR@scalestyle`

`{\langle prefix \rangle}{\langle xscale \rangle}{\langle yscale \rangle}`

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:scale` style.

```
122 \newcommand*\LWR@scalestyle[3]{%
123   #1transform:scale(#2,#3);
124 }
```

### § 318.4 `\includegraphics`

`\LWR@opacity`

For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the `transparent` package.

```
125 \def\LWR@opacity{1}
```

`\LWR@imagesizebox`

Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile`

`{\langle w \rangle}{\langle h \rangle}{\langle filename \rangle}` Sets the parsed filename for HTML output.

```
127 \newcommand*\LWR@HTML@Gin@setfile[3]{%
128   \xdef\LWR@parsedfilename{#3}%
129 }
```

`class (Key) [Gin]` css class for the image.

Define the new class `key` for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
130 \AtBeginDocument{
131   \define@key{Gin}{class}{}
132 }
```

`\LWR@replaceEPSSVG`

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
133 \AtBeginDocument{
134   \IfPackageLoadedTF{epstopdf}
135   {
136     \newcommand*\LWR@replaceEPSSVG{}
137   }{%
```

```

138 \newcommand*\LWR@replaceEPSSVG{%
139     \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
140     \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
141 }
142 }%
143 }

```

\* [*2: options*] [*3: options*] [*4: filename*]

\LWR@ig@useactualimagesize

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

144 \newcommand*\LWR@ig@useactualimagesize[4]{%
145     \begingroup%
146     \LWR@restoreorigformatting%
147     \ifpdf%
148     \appto\LWR@restoreorigformatting{%
149         \DeclareGraphicsExtensions{%
150             .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
151         }%
152     }%
153     \else% \ifpdf
154         \ifXeTeX%
155     \appto\LWR@restoreorigformatting{%
156         \DeclareGraphicsExtensions{%
157             .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
158         }%
159     }%
160     \else%
161     \appto\LWR@restoreorigformatting{%
162         \DeclareGraphicsExtensions{%
163             .eps, .EPS, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
164         }%
165     }%
166     \fi%
167     \fi% \ifpdf

```

For a word processor, do not use rotation:

```

168 \ifbool{FormatWP}{\define@key{Gin}{angle}{}}{}%
169 \IfBooleanTF{#1}%
170 {% starred
171     \IfValueTF{#3}%
172     {%
173         \global\setbox\LWR@imagesizebox{%
174             \LWR@originincludegraphics*[#2][#3]{#4}%
175         }%
176     }%
177     {%
178         \IfValueTF{#2}%
179         {%
180             \global\setbox\LWR@imagesizebox{%
181                 \LWR@originincludegraphics*[#2]{#4}%
182             }%
183         }%
184         \global\setbox\LWR@imagesizebox{%
185             \LWR@originincludegraphics*{#4}%
186         }%
187     }%
188 }%
189 }% starred

```

```

190   {% not starred
191     \IfValueTF{#3}%
192     {%
193       \global\abox{\LWR@imagesizebox}{%
194         \LWR@originincludegraphics[#2][#3]{#4}%
195       }%
196     }%
197     {%
198       \IfValueTF{#2}%
199       {%
200         \global\abox{\LWR@imagesizebox}{%
201           \LWR@originincludegraphics[#2]{#4}%
202         }%
203       }{%
204         \global\abox{\LWR@imagesizebox}{%
205           \LWR@originincludegraphics{#4}%
206         }%
207       }%
208     }%
209   }% not starred
210 \endgroup%
211 \settoheight{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
212 \global\renewcommand*\LWR@igwidthstyle{%
213   width:\LWR@printlength{\LWR@igwidth}%
214 }%
215 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
216 \global\renewcommand*\LWR@igheightstyle{%
217   height:\LWR@printlength{\LWR@igheight}%
218 }%
219 }

```

`\LWR@ig@htmltag`

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

220 \newcommand*\LWR@ig@htmltag{%
221   img\LWR@indentHTML%
222   src=\textquotedbl%
223   \detokenize\expandafter{\LWR@parsedfilename}%
224   \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

225   \ifthenelse{
226     \NOT\equal{\LWR@igwidthstyle}{ } \OR
227     \NOT\equal{\LWR@igheightstyle}{ } \OR
228     \NOT\equal{\LWR@igorigin}{ } \OR
229     \NOT\equal{\LWR@igangle}{ } \OR
230     \NOT\equal{\LWR@igxscale}{1} \OR
231     \NOT\equal{\LWR@igyscale}{1}
232   }%
233   {%
234     style=\textquotedbl\LWR@indentHTML
235     \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
236       {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
237     \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
238       {\LWR@igheightstyle;\LWR@indentHTML}{ }%
239     \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
240       {
241         transform-origin: \LWR@originnames{\LWR@igorigin};%

```

```

242         \LWR@indentHTML%
243     }{}%
244     \ifthenelse{\NOT\equal{\LWR@igangle}{}}%
245     {%
246         \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
247         \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
248         \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
249     }{}%
250     \ifthenelse{%
251         \NOT\equal{\LWR@igxscale}{1}\OR%
252         \NOT\equal{\LWR@igyscale}{1}%
253     }%
254     {%
255         \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
256         \LWR@indentHTML
257         \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
258         \LWR@indentHTML
259         \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
260         \LWR@indentHTML
261     }{}%
262     %
263     \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
264     {opacity:\LWR@opacity;\LWR@indentHTML}{}%
265     %
266     \textquotedbl\LWR@indentHTML%
267 }{}%

```

Set the class and alt tag:

```

268     class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
269     alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
270 }% end of image tags

```

`\LWR@includegraphicsb`

\* [*2: options*] [*3: options*] [*4: filename*]

graphics syntax is `\includegraphics * [llx, lly] [urx, ury] {filename}`

graphicx syntax is `\includegraphics [key values] {filename}`

If #3 is empty, only one optional argument was given, thus `graphicx` syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```

271 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
272 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

273     \LWR@origtilde \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

274     \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

275     \large%

```

Temporarily prevent underfull `\hbox` warnings.

```

276     \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

277 \setlength{\LWR@igwidth}{0pt}%
278 \setlength{\LWR@igheight}{0pt}%
279 \renewcommand*\LWR@igwidthstyle{}%
280 \renewcommand*\LWR@igheightstyle{}%
281 \renewcommand*\LWR@igorigin{}%
282 \renewcommand*\LWR@igangle{}%
283 \renewcommand*\LWR@igxscale}{1}%
284 \renewcommand*\LWR@igyscale}{1}%
285 \renewcommand*\LWR@igclass}{inlineimage}%
286 \boolfalse\LWR@igkeepaspectratio%

287 \ifdefvoid{\LWR@ThisAltText}%
288   \edef\LWR@igalt{\ImageAltText}%
289 }%
290   \edef\LWR@igalt{\LWR@ThisAltText}%
291 }%

```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```

292 \IfValueF{#3}{%
293   \IfValueTF{#2}%
294     {\setkeys{igraph}{#2}}%
295     {\setkeys{igraph}{}}%
296 }%

```

Fully expand and detokenize the filename, changing the file extension to `.svg` if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

297 \begingroup%
298 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
299 \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

300 \StrSubstitute{\LWR@tempone}{.pdf}{\LWR@tempone}%
301 \StrSubstitute{\LWR@tempone}{.PDF}{\LWR@tempone}%

302 \LWR@replaceEPSSVG%
303 \xdef\LWR@parsedfilename{\LWR@tempone}%
304 \Gininclude@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
305 \endgroup%
306 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled `//` in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

307 \StrSubstitute{\LWR@parsedfilename}{//}{/}\LWR@parsedfilename%
308 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

309 \ifboolexpr{
310   bool {FormatWP} or
311   bool {\LWR@igkeepaspectratio}
312 }{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

313 \LWR@traceinfo{LWR@includegraphicsb: about to create href}%
314 \LWR@href{\LWR@parsedfilename}%
315 {% start of href
316 \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
317 \LWR@htmltag{\LWR@ig@htmltag}%
318 }% end of href

```

Return to original page size and font size:

```
319 \end{LWR@setvirtualpage}%
```

Clear the single-use alt text:

```

320 \gdef\LWR@ThisAltText{}%
321 \LWR@traceinfo{LWR@includegraphicsb done}%
322 }

```

`\includegraphics [<key=val>] {<filename>}`

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

323 \AtBeginDocument{
324
325 \LWR@traceinfo{Patching includegraphics.}
326
327 \LetLtxMacro\LWR@originincludegraphics\includegraphics

328 \renewrobustcmd*\includegraphics}
329 {%

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```

330 \LWR@traceinfo{includegraphics}%
331 \LWR@ensuredoingapar%
332 \LWR@includegraphicsb%
333 }% includegraphics
334 }% AtBeginDocument

```

### § 318.5 Boxes

`\LWR@rotboxorigin`

Holds the origin key letters.

```
335 \newcommand*\LWR@rotboxorigin{}
```

`\LWR@originname`

`{<letter>}`

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```

336 \newcommand*\LWR@originname[1]{%
337 \ifthenelse{\equal{#1}{t}}{top}{}%
338 \ifthenelse{\equal{#1}{b}}{bottom}{}%
339 \ifthenelse{\equal{#1}{c}}{center}{}%
340 \ifthenelse{\equal{#1}{l}}{left}{}%
341 \ifthenelse{\equal{#1}{r}}{right}{}%
342 }

```

\LWR@originnames

{\langle letters\rangle}

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
343 \newcommand*\LWR@originnames[1]{%
344 \StrChar{#1}{1}[\LWR@strresult]%
345 \LWR@originname{\LWR@strresult}
346 \StrChar{#1}{2}[\LWR@strresult]%
347 \LWR@originname{\LWR@strresult}
348 }
```

Handle the origin key for \rotatebox:

```
349 \define@key{krotbox}{origin}{%
350 \renewcommand*\LWR@rotboxorigin{#1}%
351 }
```

These keys are ignored:

```
352 \define@key{krotbox}{x}{}
353 \define@key{krotbox}{y}{}
354 \define@key{krotbox}{units}{}

```

\rotatebox [*keyval list*] {\langle angle\rangle} {\langle text\rangle}

```
355 \AtBeginDocument{
```

The HTML version:

```
356 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%
```

Reset the origin to “none-given”:

```
357 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set \LWR@rotateboxorigin:

```
358 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
359 \LWR@htmltagc{%
360   span\LWR@indentHTML
361   style=\textquotedbl\LWR@indentHTML
362   display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
363   \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}{%
364     {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
365     {}}%
```

Print the rotation information:

```
366   \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
367   \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
368   \LWR@rotstyle{#2}\textquotedbl\LWR@originewline%
369 }\LWR@originewline%
```



Print the text to be rotated:

```
370 \begin{LWR@nestspan}%
371 #3%
```

Close the span:

```
372 \LWR@htmltagc{/span}%
373 \end{LWR@nestspan}%
374 }
```

The high-level interface:

```
375 \LWR@formatted{rotatebox}
376
377 }% AtBeginDocument
```

`\scalebox {<h-scale>} [<v-scale>] {<text>}`

```
378 \AtBeginDocument{
```

The HTML version:

```
379 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
380 \LWR@htmltagc{%
381   span\LWR@indentHTML
382   style=\textquotedbl\LWR@indentHTML
383   display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
384   \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
385   \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386   \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
387   \textquotedbl\LWR@orignewline
388 }\LWR@orignewline%
```

Print the text to be scaled:

```
389 \begin{LWR@nestspan}%
390 #3%
```

Close the span:

```
391 \LWR@htmltagc{/span}%
392 \end{LWR@nestspan}%
393 }
```

The high-level interface:

```
394 \LWR@formatted{scalebox}
395
396 }% AtBeginDocument
```

`\reflectbox`  $\{\langle text \rangle\}$

```

397 \AtBeginDocument{
398
399 \newcommand{\LWR@HTML@reflectbox}[1]{%
400   \scalebox{-1}[1]{#1}%
401 }% \reflectbox
402
403 \LWR@formatted{reflectbox}
404
405 }% AtBeginDocument

```

`\resizebox`  $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```

406 \AtBeginDocument{
407
408 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
409   #4%
410 }
411
412 \LWR@formatted{resizebox}
413
414 }% AtBeginDocument

```

---

File 210 **lwarp-graphicx.sty**

§ 319 Package **graphicx**

`graphicx` (*Pkg*) `graphicx` is emulated.

`graphicx` loads `graphics`, which also loads `lwarp-graphics`, which remembers the original `graphics` definitions for use inside a `lateximage`, and then patches them `\AtBeginDocument` for HTML output.

`lwarp-graphics` handles the syntax of either `graphics` or `graphicx`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]`

---

File 211 **lwarp-grffile.sty**

§ 320 Package **grffile**

`grffile` (*Pkg*) `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.



**matching PDF and SVG**

`lwarp-grffile` now exists as a placeholder since `grffile` used to be emulated by `lwarp`, and thus older versions of `lwarp-grffile` may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

File 212 **lwarp-grid.sty**§ 321 Package **grid**

`grid (Pkg)` `grid` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

```
2 \newenvironment*{gridenv}{}{}
```

File 213 **lwarp-grid-system.sty**§ 322 Package **grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

`grid-system (Pkg)` `grid-system` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
```

```
3
```

```
4 \ifdef{\endrow}{
```

```
5   \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}
```

```
6 }{}
```

```
7
```

```
8 \renewcommand{\gridssystem@finishcell}{\hspace{\gridssystem@cellsep}}
```

File 214 **lwarp-gridset.sty**§ 323 Package **gridset**

`gridset (Pkg)` `gridset` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*{\gridbase}{}{}
```

```
3 \newcommand*{\gridinterval}{}{}
```

```
4 \newcommand*{\SavePos}[1]{}{}
```

```
5 \ifLuaTeX
```

```
6 \else
```

```
7 \let\savepos\SavePos
```

```
8 \fi
```

```
9 \newcommand*{\vskipnextgrid}{}{}
```

```
10 \newcommand*{\thegridinfo}[1]{(thegridinfo)}
```

```
11 \newcommand*{\theposinfo}[1]{(theposinfo)}
```

```
12 \newcommand*{\theypos}[1]{(theypos)}
```

File 215 **lwarp-hang.sty**

§ 324 Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

hang (*Pkg*) hang is emulated.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14   \LWR@findhangingleftmargin%
15   \BlockClass[%
16     \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17     \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
18   ]%
19   {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25   \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26   \renewcommand*\LWR@printopenlist{%
27     \LWR@findhangingleftmargin%
28     ul style=\textquotedbl%
29     \LWR@print@embox{list-style-type:none;} % extra space
30     \LWR@print@embox{%
31       margin-left:\LWR@printlength{\LWR@templengthone}%
32     } ; % extra space
33     \LWR@print@embox{%
34       text-indent:-\LWR@printlength{\hangingindent}%
35     }%
36     \textquotedbl%
37   }%
38   \LetLtxMacro\item\LWR@itemizeitem%
39   \list{}{}%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}

```

```

48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52   \BlockClass[%
53     \LWR@findhangingleftmargin%
54     \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55     \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}}%
56   ]{labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 216 **lwarp-hanging.sty**

§ 325 Package **hanging**

hanging (*Pkg*) hanging is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \IfClassLoadedTF{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

```

\hangpara             $\langle indent \rangle \langle afternum \rangle$

**Use hangparas instead.**

```
9 \newcommand*\hangpara}[2]{}

```

Env hangparas             $\langle indent \rangle \langle afternum \rangle$

```

10 \newenvironment*{hangparas}[2]
11 {%
12   \BlockClass[%
13     \LWR@print@embox{margin-left:\LWR@printlength{#1}} ; %
14     \LWR@print@embox{text-indent:-\LWR@printlength{#1}}}%
15   ]%
16   {hangingpar}%
17 }
18 {\endBlockClass}

```

Env hangpunct

```

19 \newenvironment*{hangpunct}
20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{‘}
24 \newcommand{\nhrq}{’}

```

---

File 217 **lwarp-hepunits.sty**

§ 326 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

hepunits (*Pkg*) hepunits is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmids\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi

```

```

41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcscq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\VC\electronvoltc}
45 \CustomizeMathJax{\let\VCsq\electronvoltcscq}
46
47 \ifx\@HEPopt\noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\eV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\eV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\eV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\eV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\eV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\eVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\eVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\eVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\eVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\eVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\eVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\eVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\eVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\eVcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\eVcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 218 **lwarp-hhline.sty**

§ 327 Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

hhline (*Pkg*) **hhline** is patched for use by lwarp.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]
2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3   \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4   \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 219 **lwarp-hhtensor.sty**

§ 328 Package **hhtensor**

(Emulates or patches code by HARALD HARDERS.)

hhtensor (*Pkg*) hhtensor is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

```

2 \begin{warpMathJax}
3 \iftensor@bold
4   \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5   \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6   \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8   \iftensor@uline
9     \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10    \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11    \CustomizeMathJax{\newcommand{\tens}[2]{
12      \underset{
13        \raise{.5ex}{\underset{#2}{\sim}}
14      }{#1}
15    }}
16 \else
17   \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18   \CustomizeMathJax{\newcommand{\tens}[2]{
19     \underset{
20       \raise{.5ex}{\underset{#2}{\sim}}
21     }{#1}
22   }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{\{}^{\mathrm{T}}\}}
27 \end{warpMathJax}

```

---

File 220 **lwarp-hypbmsec.sty**

§ 329 Package **hypbmsec**

hypbmsec (*Pkg*) hypbmsec is emulated by the lwarp core.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 221 **lwarp-hypcap.sty**

§ 330 Package **hypcap**

hypcap (*Pkg*) hypcap is ignored.



**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*\capstart{}
3 \newcommand*\hypcapspace{}
4 \newcommand*\hypcapredef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}
```

---

File 222 **lwarp-hypdestopt.sty**

§ 331 Package **hypdestopt**

hypdestopt (*Pkg*) hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 223 **lwarp-hypernat.sty**

§ 332 Package **hypernat**

hypernat (*Pkg*) hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 224 **lwarp-hyperref.sty**

§ 333 Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

hyperref (*Pkg*) hyperref is emulated.

**for HTML output:**

```
1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed
2 % \ProvidesPackage{lwarp-#1-#2}% not allowed
3 \PackageInfo{lwarp}{%
4 Using the lwarp HTML version of package ‘hyperref’,\MessageBreak
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp’s version of ‘hyperref’.)\MessageBreak}

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}

```

```
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertextnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvi-pdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}

```

```
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{français}[]{}
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}

```

```
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvipdfm}[]{}
144 \define@key{LWR@hyperref}{dvipdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
151 \define@key{LWR@hyperref}{dviwindo}[]{}
152 \define@key{LWR@hyperref}{dvipsones}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hideLinks}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{nolinks}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}
169 \define@key{LWR@hyperref}{dvipdfm}[]{}
170 \define@key{LWR@hyperref}{dvipdfmx}[]{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsones}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driverfallback}[]{}
184 \define@key{LWR@hyperref}{customdriver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}
187 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
188 \define@key{LWR@hyperref}{colorlinks}[]{}
189 \define@key{LWR@hyperref}{frenchlinks}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{pagebackref}[]{}
192 \define@key{LWR@hyperref}{destLabel}[]{}
193 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
194 \define@key{LWR@hyperref}{pdfpagemode}[]{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
196 \define@key{LWR@hyperref}{pdfdirection}[]{}
197 \define@key{LWR@hyperref}{pdfviewarea}[]{}
198 \define@key{LWR@hyperref}{pdfviewclip}[]{}

```

```

199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdfffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}
224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}
227 \define@key{LWR@hyperref}{urlcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240   {\RequirePackage{backref}}
241   {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244   {\RequirePackage{backref}}
245   {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248   {\RequirePackage{backref}}
249   {}
250
251 \ifLWR@hyperref@pagebackref
252   \RequirePackage{backref}
253 \fi

```

```

254 \LetLtxMacro\href\LWR@href
255 \LetLtxMacro\nolinkurl\LWR@nolinkurl
256 \LetLtxMacro\url\LWR@url
257 \LetLtxMacro\phantomsection\LWR@phantomsection

```

```
258 \newcommand*\hyperbaseurl[1]{}
```

No application for lwarp:

```

259 \newcommand*\HyperDestNameFilter[1]{#1}
260 \newcommand*\HyperDestLabelReplace[1]{#1}
261 \newcommand*\HyperDestRename[2]{ }

```

No application for lwarp:

```
262 \newcommand*\hyperget[2]{ }
```

\hyperimage

`{<URL>} {<alt text>}`

Insert an image with alt text:

```

263 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
264   \LWR@ensuredoingapar%
265   \def\LWR@templink{#1}%
266   \@onelevel@sanitize\LWR@templink%
267   \LWR@htmltag{%
268     img src=\textquotedbl\LWR@templink\textquotedbl\ %
269     alt=\textquotedbl#2\textquotedbl\ %
270     class=\textquotedbl{}hyperimage\textquotedbl%
271   }%
272   \LWR@ensuredoingapar%
273   \endgroup%
274 }
275
276 \newrobustcmd*\hyperimage}{%
277   \begingroup%
278   \LWR@linkcatcodes%
279   \LWR@hyperimageb%
280 }
281

```

\hyperdef

`{<1: category>} {<2: name>} {<3: text>}`

Creates an HTML anchor to category.name with the given text.

```

282 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
283   \LWR@ensuredoingapar%
284   \LWR@label@createtag{#1.#2}%
285   #3%
286   \endgroup%
287 }
288
289 \newcommand*\hyperdef}{%
290   \begingroup%
291   \LWR@linkcatcodes%
292   \LWR@hyperdefb%
293 }
294

```

`\LWR@hyperrefb``{\langle 1: URL \rangle} {\langle 2: category \rangle} {\langle 3: name \rangle} {\langle 4: text \rangle}`Creates an HTML link to `URL#category.name` with the given text.

```

295 \newcommand{\LWR@hyperreffinish}[1]{%
296   \begingroup%
297   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
298   #1%
299   \endgroup%
300   \LWR@htmltag{/a}%
301 }
302
303 \newcommand*\LWR@hyperrefbb}[3]{%
304   \LWR@htmltag{%
305     a href=\textquotedbl%
306       \detokenize\expandafter{#1}\LWR@hashmark%
307       \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
308     \textquotedbl%
309     \LWR@addlinktitle%
310   }%
311   \endgroup%
312   \LWR@hyperreffinish%
313 }
314
315 \newrobustcmd*\LWR@hyperrefb}{%
316   \begingroup%
317   \LWR@linkcatcodes%
318   \LWR@hyperrefbb%
319 }

```

`\LWR@hyperrefc``[{\langle label \rangle}] {\langle text \rangle}`Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```

320 \NewDocumentCommand{\LWR@hyperrefcb}{0{\label}}{%
321   \LWR@startref{#1}%
322   \endgroup%
323   \LWR@hyperreffinish%
324 }
325
326 \newcommand*\LWR@hyperrefc}{%
327   \begingroup%
328   \LWR@linkcatcodes%
329   \LWR@hyperrefcb%
330 }

```

`\hyperref`
`{\langle 1: URL \rangle} {\langle 2: category \rangle} {\langle 3: name \rangle} {\langle 4: text \rangle} — or —`  
`[{\langle 1: label \rangle}] {\langle 2: text \rangle}`

```

331 \DeclareRobustCommand*\hyperref}{%
332   \LWR@ensuredoingapar%
333   \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
334 }

```

`\hypertarget``{\langle name \rangle} {\langle text \rangle}`

Creates an anchor to name with the given text.

```

335 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
336   \label{\LWR-ht-#1}%
337   #2%

```

```

338   \endgroup%
339 }
340
341 \newcommand*{\hypertarget}{%
342   \LWR@ensuredoingapar%
343   \begingroup%
344   \LWR@linkcatcodes%
345   \LWR@hypertargetb%
346 }

```

`\hyperlink`

$$\{ \langle name \rangle \} \{ \langle text \rangle \}$$

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

347 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
348   \ifbool{LWR@insidemathcomment}%
349     {\endgroup}%
350     {\LWR@hyperrefcb[LWR-ht-#1]}%
351 }
352
353 \DeclareDocumentCommand{\hyperlink}{}{}%
354   \LWR@ensuredoingapar%
355   \begingroup%
356   \LWR@linkcatcodes%
357   \LWR@hyperlinkb%
358 }

```

`\LWR@nullify@hyperref`

$$\{ \langle 1: URL \rangle \} \{ \langle 2: category \rangle \} \{ \langle 3: name \rangle \} \{ \langle 4: text \rangle \} \quad \text{— or —}$$

$$\{ \langle 1: label \rangle \} \{ \langle 2: text \rangle \}$$

```

359 \newcommand{\LWR@nullify@hyperrefb}[2][{}]{
360
361 \newcommand*{\LWR@nullify@hyperref}{%
362   \@ifnextchar[\LWR@nullify@hyperrefb]{\fourthoffour}%
363 }

```

To nullify in a `lateximage` or `svg` math. `\hypertarget` must be left active for references to work, and does not harm.

```

364 \appto\LWR@restoreorigformatting{%
365   \LetLtxMacro\hyperdef\@thirdofthree
366   \LetLtxMacro\hyperlink\@secondoftwo%
367   \LetLtxMacro\hyperref\LWR@nullify@hyperref%
368 }

```

`\autoref`

$$* \{ \langle label \rangle \}$$

For HTML, `\cleveref` is used instead.

```

369 \NewDocumentCommand{\autoref}{s m}{%
370   \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
371 }

```

`\autopageref`

$$\{ \langle label \rangle \}$$

For HTML, `\cleveref` is used instead.

```

372 \NewDocumentCommand{\autopageref}{s m}{%

```



```
373 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
374 }
```

#### Default names:

```
375 \def\equationautorefname{Equation}%
376 \def\footnoteautorefname{footnote}%
377 \def\itemautorefname{item}%
378 \def\figureautorefname{Figure}%
379 \def\tableautorefname{Table}%
380 \def\partautorefname{Part}%
381 \def\appendixautorefname{Appendix}%
382 \def\chapterautorefname{chapter}%
383 \def\sectionautorefname{section}%
384 \def\subsectionautorefname{subsection}%
385 \def\subsubsectionautorefname{subsubsection}%
386 \def\paragraphautorefname{paragraph}%
387 \def\subparagraphautorefname{subparagraph}%
388 \def\FancyVerbLineautorefname{line}%
389 \def\theoremautorefname{Theorem}%
390 \def\pageautorefname{page}%
```

```
\pdfstringdef      {\langle macroname \rangle} {\langle TEXstring \rangle}
```

```
391 \newcommand{\pdfstringdef}[2]{}
```

```
\pdfbookmark      [ \langle level \rangle ] {\langle text \rangle} {\langle name \rangle}
```

```
392 \newcommand{\pdfbookmark}[3][[]]{}
```

```
\currentpdfbookmark  {\langle text \rangle} {\langle name \rangle}
```

```
393 \newcommand{\currentpdfbookmark}[2]{}
```

```
\subpdfbookmark    {\langle text \rangle} {\langle name \rangle}
```

```
394 \newcommand{\subpdfbookmark}[2]{}
```

```
\belowpdfbookmark  {\langle text \rangle} {\langle name \rangle}
```

```
395 \newcommand{\belowpdfbookmark}[2]{}
```

```
\texorpdfstring    {\langle TEXstring \rangle} {\langle PDFstring \rangle}
```

```
396 \let\texorpdfstring\relax
```

```
397 \newcommand{\texorpdfstring}[2]{#1}
```

```
{\langle commands \rangle}
```

```
\pdfstringdefDisableCommands
```

```
398 \newcommand{\pdfstringdefDisableCommands}[1]{}
```

```
\hypercalcbp      {\langle dimen \rangle} From hyperref.
```

```
399 \def\hypercalcbp#1{%
```

```
400 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
```

```
401 }%
```

---

<code>\Acrobatmenu</code>	<code>{\langle menuoption\rangle} {\langle text\rangle}</code> 402 <code>\newcommand{\Acrobatmenu}[2]{}{}</code>
<code>\TextField</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 403 <code>\DeclareRobustCommand{\TextField}[2][[]]{}{}</code>
<code>\CheckBox</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 404 <code>\DeclareRobustCommand{\CheckBox}[2][[]]{}{}</code>
<code>\ChoiceMenu</code>	<code>[\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}</code> 405 <code>\DeclareRobustCommand{\ChoiceMenu}[3][[]]{}{}</code>
<code>\PushButton</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 406 <code>\DeclareRobustCommand{\PushButton}[2][[]]{}{}</code>
<code>\Submit</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 407 <code>\DeclareRobustCommand{\Submit}[2][[]]{}{}</code>
<code>\Reset</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 408 <code>\DeclareRobustCommand{\Reset}[2][[]]{}{}</code>
<code>\Gauge</code>	<code>[\langle parameters\rangle] {\langle label\rangle}</code> 409 <code>\DeclareRobustCommand{\Gauge}[2][[]]{}{}</code>
<code>\LayoutTextField</code>	<code>{\langle label\rangle} {\langle field\rangle}</code> 410 <code>\newcommand*\LayoutTextField[2]{}{}</code>
<code>\LayoutChoiceField</code>	<code>{\langle label\rangle} {\langle field\rangle}</code> 411 <code>\newcommand*\LayoutChoiceField[2]{}{}</code>
<code>\LayoutCheckField</code>	<code>{\langle label\rangle} {\langle field\rangle}</code> 412 <code>\newcommand*\LayoutCheckField[2]{}{}</code>
<code>\MakeRadioField</code>	<code>{\langle width\rangle} {\langle height\rangle}</code> 413 <code>\newcommand*\MakeRadioField[2]{}{}</code>
<code>\MakeCheckField</code>	<code>{\langle width\rangle} {\langle height\rangle}</code> 414 <code>\newcommand*\MakeCheckField[2]{}{}</code>
<code>\MakeTextField</code>	<code>{\langle width\rangle} {\langle height\rangle}</code>

```
415 \newcommand*{\MakeTextField}[2]{}
```

```
\MakeChoiceField      {\langle width \rangle} {\langle height \rangle}
```

```
416 \newcommand*{\MakeChoiceField}[2]{}
```

```
\MakeFieldButton      {\langle text \rangle}
```

```
417 \newcommand{\MakeFieldButton}[1]{}
```

File 225 **lwarp-hyperxmp.sty**

§ 334 Package **hyperxmp**

hyperxmp (*Pkg*) hyperxmp is ignored.

**for HTML output:** Discard all options for lwarp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadata}[]{}
5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdftype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthortitle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}

```

```

40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

---

File 226 **lwarp-hyphenat.sty**

§ 335 Package **hyphenat**

hyphenat (*Pkg*) hyphenat is emulated during HTML output, while the print-mode version is used inside a lateximage.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@originohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonyhyp\colonyhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16   \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonyhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@originohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonyhyp\LWRHYNAT@origcolonyhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 227 **lwarp-idxlayout.sty**

§ 336 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

idxlayout (*Pkg*) idxlayout is emulated.

**for HTML output:** Discard all options for lwarp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]

2 \newcommand{\LWR@indexprenote}{}

\AtBeginDocument to help with package load order.

3 \AtBeginDocument{
4   \preto\printindex{
5
6   \LWR@maybe@orignewpage
7   \LWR@startpars
8
9   \LWR@indexprenote
10
11 }
12 }

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*\{noindexprenote}{\renewcommand{\LWR@indexprenote}{} }
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*\{indexfont}{}
18 \newcommand*\{indexjustific}{}
19 \newcommand*\{indexsubsdelim}{}
20 \newcommand*\{indexstheadcase}{}

```

---

File 228 **lwarp-ifoddpage.sty**

§ 337 Package **ifoddpage**

*(Emulates or patches code by MARTIN SCHARRER.)*

ifoddpage (*Pkg*) ifoddpage is emulated.

**for HTML output:** Discard all options for lwarp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue\oddpageoronesidetrue}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11   \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpageoroneside{%
15   \expandafter\@firstoftwo
16 }

```

File 229 **lwarp-imakeidx.sty**

§ 338 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

`imakeidx` (*Pkg*) `imakeidx` is patched for use by `lwarp`.

**letter headings** When using `makeindex`, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using `xindy` the default style also displays letter headings.)

**index setup** See section 8.6.18 for how to setup `lwarpmk` to process the indexes with `imakeidx`, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode'\_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode'\_ =8%
```

`\printindex`

The HTML version of `\printindex`:

```
5 \catcode'\_ =12%
6
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode'\_ =8%
```

`\@index`

The HTML version of `\@index`:

```
22 \catcode'\_ =12%
23
24 \def\@index[1]{%
25 \ifstrequal{#1}{\imki@jobname}%
26 {%
27 \@ifundefined{#1@idxfile}%
```

```

28     {%
29         \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
30         \begingroup
31         \@sanitize
32         \imki@nowrindex%
33     }%
34     {%
35         \edef\@idxfile{#1}%
36         \begingroup
37         \@sanitize
38         \@wrindex\@idxfile%
39     }%
40 }%
41 {%
42     \@ifundefined{#1_html\@idxfile}%
43     {%
44         \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45         \begingroup
46         \@sanitize
47         \imki@nowrindex%
48     }%
49     {%
50         \edef\@idxfile{#1_html}%
51         \begingroup
52         \@sanitize
53         \@wrindex\@idxfile%
54     }%
55 }%
56 }
57
58 \catcode'\_ =8%

```

`\item`

`\subitem`

`\subsubitem`

HTML versions of `\item`, etc.:

```

59 \appto\theindex{%
60     \LetLtxMacro\item\LWR@indexitem%
61     \LetLtxMacro\subitem\LWR@indexsubitem%
62     \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
63 }

```

`\imki@wrindexentrysplit`      $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

`\imki@wrindexentryunique`      $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65     \addtocounter{LWR@autoindex}{1}%
66     \expandafter\protected@write\csname#1@idxfile\endcsname{%
67         {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

68     \label{LWRindex-\arabic{LWR@autoindex}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72     \addtocounter{LWR@autoindex}{1}%

```

```

73   \protected@write\@indexfile{}%
74     {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

75   \label{LWRindex-\arabic{LWR@autoindex}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showidxentry{#1}{#2}%
81   \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showidxentry{#1}{#2}%
87   \@esphack%
88 }
89

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*\LWR@imki@setxdydefopts{%
91   \edef\imki@options{ \space %
92     -M \space \LWR@xindyStyle\space %
93     -L \space \LWR@xindyLanguage\space %
94     -C \space \LWR@xindyCodepage\space %
95   }%
96 }

```

`\LWR@imki@setdefopts`

`{\langle user options \rangle}`

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the `lwarp` version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the `lwarp` version is appended.

```

97 \newcommand*\LWR@imki@setdefopts[1]{%
98 \ifblank{#1}{%
99   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100  \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101  \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102  \ifdefstring{\imki@progdefault}{trueindy}{\LWR@imki@setxdydefopts}{}%
103 }{%
104   \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

`\imki@makeindex`

Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108   {\let\imki@options\space}
109   {\LWR@imki@setdefopts}{}%
110   {}
111   {\LWR@patcherror{imakeidx}{makeindex}}

```



Use the new HTML options.

```
112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

\imki@resetdefaults

Use the new HTML options:

```
113 \xpatchcmd{\imki@resetdefaults}
114   {\def\imki@options{ }}
115   {\LWR@imki@setdefopts{}}
116   {}
117   {\LWR@patcherror{imakeidx}{resetdefaults}}
```

theindex was already defined \AtBeginDocument by the lwarp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```
118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120   \imki@maybeaddtoc
121   \imki@indexlevel{\indexname}
122   \LetLtxMacro\item\LWR@indexitem%
123   \LetLtxMacro\subitem\LWR@indexsubitem%
124   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
125 }{}
126}% AtBeginDocument
```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the lwarp core.

```
128 \ifimki@splitindex
129   \let\imki@startidx\imki@startidxunique
130   \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131   \let\imki@putindex\imki@putindexunique
132   \let\imki@wrindexentry\imki@wrindexentryunique
133   \let\imki@startidxsplit\undefined
134   \let\imki@wrindexsplit\undefined
135   \let\imki@putindexsplit\undefined
136 \else
137   \let\imki@startidx\imki@startidxsplit
138   \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139   \let\imki@putindex\imki@putindexsplit
140   \let\imki@wrindexentry\imki@wrindexentrysplit
141   \let\imki@startidxunique\undefined
142   \let\imki@wrindexunique\undefined
143   \let\imki@putindexunique\undefined
144 \fi
```

---

File 230 **lwarp-impnatty.sty**

§ 339 Package **impnatty**

`impnatty` (*Pkg*) `impnatty` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

---

File 231 **lwarp-index.sty**

§ 340 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

`index` (*Pkg*) `index` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use `\theLWR@autoindex` instead of `\thepage`. `\@tempwattrue` is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3   {\x@newindex[thepage]}
4   {%
5     \@tempwattrue%
6     \x@newindex[theLWR@autoindex]%
7   }
8   {}
9   {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[thepage]}
13   {%
14     \@tempwattrue%
15     \x@renewindex[theLWR@autoindex]%
16   }
17   {}
18   {\LWR@patcherror{index}{renewindex}}
```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20   {\begingroup}
21   {%
22     \addtocounter{LWR@autoindex}{1}%           lwarp
23     \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}
```

`\AtBeginDocument` `lwarp core \lets \@wrindex` to `\LWR@wrindex`. Since the `index` package has been loaded, `\let` to its version instead:

```
28 \let\LWR@index@wrindex\@wrindex
29
30 \AtBeginDocument{
31 \let\@wrindex\LWR@index@wrindex
32 }
```

Modified to add `\index@prologue`:

```
33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35   \LWR@indexsection{indexname}%
36   \ifx\index@prologue\@empty\else
37     \index@prologue
38     \bigskip
39   \fi
40   \LetLtxMacro\item\LWR@indexitem%
41   \LetLtxMacro\subitem\LWR@indexsubitem%
42   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
43 }{}
44 }% AtBeginDocument
```

Disabled:

```
45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*\raggedbottom{}
48 \renewcommand*\flushbottom{}
49 \renewcommand*\markboth}[2]{}
50 \renewcommand*\markright}[1]{}

```

---

File 232 **lwarp-inputtrc.sty**

§ 341 Package **inputtrc**

*(Emulates or patches code by Uwe Lück.)*

`inputtrc (Pkg)` `inputtrc` is patched for use by `lwarp`.

**for HTML output:** `\LWR@ProvidesPackagePass{inputtrc}[2012/10/10]`

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `lateximage`.

```
2 \renewcommand*\IT@prim@input}[1]{%
3   \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 % ... TODO: option to write to '.log' only.
5   \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
6   \xdef\IT@currfile{#1}%
7   \expandafter \gdef\expandafter \IT@indent\expandafter{%
8     \IT@indent \IT@indent@unit}%
9   \@@input#1%
10  \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
11  \expandafter\IT@pop@file \IT@filestack\@nil% lwarp

```

```
12 \IT@maybe@returnmessage% v0.2          lwarp
13 }
```

---

File 233 **lwarp-intopdf.sty**

§ 342 Package **intopdf**

`intopdf (Pkg)` `intopdf` is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```
2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3   \LWR@href{#2}{#5}%
4 }
```


---

File 234 **lwarp-isomath.sty**

§ 343 Package **isomath**

*(Emulates or patches code by GÜNTER MILDE.)*

`isomath (Pkg)` `isomath` is used as-is for SVG math, and emulated for MATHJAX.

 **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
6 \CustomizeMathJax{\let\vectorssym\mathbfit}
7 \CustomizeMathJax{\let\matrixssym\mathbfit}
8 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
9 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
10 \CustomizeMathJax{\let\mathbold\mathbfit}
11 \CustomizeMathJax{\let\mathsans\mathrm}% not sans
12 \end{warpMathJax}
```

---

File 235 **lwarp-isotope.sty**

§ 344 Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

`isotope (Pkg)` `isotope` is patched for use by lwarp with SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

```

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3   \renewcommand{\isotope@atomicnumber}{#1}%
4   \edef\LWR@isotope@alntag{%
5     \textbackslash(
6     \textbackslash{isotope
7     [\isotope@nucleonnumber]%
8     [\isotope@atomicnumber]%
9     \{#2\}
10    \textbackslash)%
11  }%
12 \ifbool{mathjax}%
13   {\LWR@isotope@alntag}%
14   {% SVG
15     \m@th%
16     \LWR@subsingledollar*%
17     {% alt tag
18       \LWR@isotope@alntag%
19     }%
20     {isotope}% add'l hashing
21     {% contents
22       \settowidth\@tempdimb{%
23         \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24       }%
25       \settowidth\@tempdimc{%
26         \ensuremath{\scriptstyle\isotope@atomicnumber}%
27       }%
28       \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi
29       \ensuremath{
30         {}%
31         ^{\makebox[\@tempdimb][r]{%
32           \ensuremath{%
33             \scriptstyle\isotope@nucleonnumber%
34           }% ensuremath
35         }}%
36         _{\makebox[\@tempdimb][r]{%
37           \ensuremath{%
38             \scriptstyle\isotope@atomicnumber%
39           }% ensuremath
40         }}%
41         \isotopestyle{#2}%
42       }% ensuremath
43     }% contents
44   }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51   \newcommand{\LWRisotope@two}[2][]{%
52     {%
53       \vphantom{\mathrm{#2}}%
54       }^{\LWRisotope@nucleonnumber}_{#1}%
55       \mathrm{#2}%
56     }%
57   }%
58 }
59
60 \CustomizeMathJax{%
61   \newcommand{\isotope}[1][]{%

```

```

62     \def\LWRisotopenucleonnumber{#1}%
63     \LWRisotopetwo%
64   }%
65 }
66 \end{warpMathJax}

```

---

File 236 **lwarp-jurabib.sty**

§ 345 Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

jurabib (*Pkg*) jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*{\jb@biblaw@item}{%
7   \hspace{0.5em}%
8   $\triangleright$
9   \HTMLunicode{25B7}%   lwarp%
10  \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14   \ifjbweereinbib
15     \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16     \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 %   \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
18     #1\ifjb@dot\unskip\unskip\unskip.\fi
19 %     &
20     \quad%   lwarp
21     \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
22 %   \end{tabular}
23   \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28   {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}
29   {}
30   {}
31   {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34   {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35   {\jb@name}
36   {}
37   {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40   {\jb@biblaw@item & \jb@@fulltitle}
41   {\jb@biblaw@item \quad \jb@@fulltitle}
42   {}

```

```

43   {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46   {\end{tabular}}
47   {}
48   {}
49   {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52   {\begin{minipage}[t]{\bibnumberwidth}}
53   {}
54   {}
55   {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58   {\end{minipage}}
59   {\quad}
60   {}
61   {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 237 **lwarp-karnaugh-map.sty**

§ 346 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

karnaugh-map (*Pkg*) karnaugh-map is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because lwarp changes the definition of \&, and the original uses \ifnum to compare 0 with \&. It is hard to patch this environment, so the entire thing is redefined here, with the lwarp modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{$X_1X_0$} O{$X_3X_2$} O{$X_5X_4$}} {%
3   \begingroup
4     % store map size {[START]
5     \renewcommand{\@karnaughmap@var@mapsizex@}{#2}%
6     \renewcommand{\@karnaughmap@var@mapsizex@}{#3}%
7     \renewcommand{\@karnaughmap@var@mapsizex@}{#4}%
8     % [END]}
9     % determinate if markings should be color or black and white
10    \IfBooleanTF{#1}{%
11      % should be black and white
12      \renewcommand{\@karnaughmap@var@bw@}{1}%
13    }{%
14      % should be color
15      \renewcommand{\@karnaughmap@var@bw@}{0}%
16    }%
17    %
18    % find matching matrix template and alignment parameters {[START]
19    \newcommand{\@karnaughmap@local@matrixtemplate@}{0}' is considered as missing matrix template
20    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22    \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%

```

```

24         \&                0 \&                1 \& \phantom{0} \&
25         0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&      \&
26         1 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&      \&
27     \phantom{0} \&                \&                \&                \&
28     }%
29 \fi
30 \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=241
31     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32         \&                0 \&                1 \& \phantom{0} \&
33         00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&      \&
34         01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&      \&
35         11 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&      \&
36         10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&      \&
37     \phantom{0} \&                \&                \&                \&
38     }%
39 \fi
40 \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=421
41     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42         \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
43         0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \&
44         1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \&
45     \phantom{0} \&                \&                \&                \&                \&
46     }%
47 \fi
48 \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=441
49     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50         \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
51         00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \&
52         01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \&
53         11 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
54         10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
55     \phantom{0} \&                \&                \&                \&                \&
56     }%
57 \fi
58 \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=442
59     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60         \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
61         00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \&
62         01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \&
63         11 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
64         10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
65     \phantom{0} \&                \&                \&                \&                \&
66     }%
67     \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68 \fi
69 \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=444
70     \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71         \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
72         00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \&
73         01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \&
74         11 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
75         10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \&
76     \phantom{0} \&                \&                \&                \&                \&
77         00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(100010)| \phantom{0} \&
78         01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(100110)| \phantom{0} \&
79         11 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)| \phantom{0} \&
80         10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)| \phantom{0} \&
81     \phantom{0} \&                \&                \&                \&                \&
82     }%
83     \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%

```



```

84     \renewcommand{\@karnaughmap@local@maprealignments}{-2.5}%
85     \fi
86     % [END]}
87     % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate" equals to '0')
88     \ifdefstring{\@karnaughmap@local@matrixtemplate}{0}{% lwarp
89%     \ifnum0=\@karnaughmap@local@matrixtemplate% original
90     % print error if no template could be found
91     \PackageError{lwarp-karnaugh-map}{%
92     Can not find a template fitting your specification
93     (\@karnaughmap@var@mapsizex@space x \@karnaughmap@var@mapsizex@space x
94     \@karnaughmap@var@mapsizex@space x \@karnaughmap@var@mapsizex@space x
95     ){%
96     Existing templates have the following dimensions:
97     2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98     }%
99%     \fi original
100    }{\relax}% lwarp
101    \begin{tikzpicture}
102    % grid
103    % for all dimensions
104    \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizex@);
105    % when there are 2 sub maps
106    \ifnum\@karnaughmap@var@mapsizex@=2
107    \draw[color=black, ultra thin] (5,0) grid (9,4);
108    \fi
109    % when there are 4 sub maps
110    \ifnum\@karnaughmap@var@mapsizex@=4
111    \draw[color=black, ultra thin] (5,0) grid (9,4);
112    \draw[color=black, ultra thin] (0,-5) grid (4,-1);
113    \draw[color=black, ultra thin] (5,-5) grid (9,-1);
114    \fi
115    % labels
116    % for all dimensions
117    \node[above] at (\@karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizex@*0.9) {\small{#5}};
118    \node[left] at (-0.9,\@karnaughmap@var@mapsizex@*0.5) {\small{#6}};
119    % when there are 2 sub maps
120    \ifnum\@karnaughmap@var@mapsizex@=2
121    \node[above] at (7,4.9) {\small{#5}};
122    % extra sub maps labels
123    \node[below] at (2,-0.1) {\small{#7$=0$}};
124    \node[below] at (7,-0.1) {\small{#7$=1$}};
125    \fi
126    % when there are 4 sub maps
127    \ifnum\@karnaughmap@var@mapsizex@=4
128    \node[above] at (7,4.9) {\small{#5}};
129    \node[left] at (-0.9,-3) {\small{#6}};
130    % extra sub maps labels
131    \node[below] at (2,-0.1) {\small{#7$=00$}};
132    \node[below] at (7,-0.1) {\small{#7$=01$}};
133    \node[below] at (2,-5.1) {\small{#7$=10$}};
134    \node[below] at (7,-5.1) {\small{#7$=11$}};
135    \fi
136    % data
137    \matrix[
138    matrix of nodes,
139    ampersand replacement=\&,
140    column sep={1cm,between origins},
141    row sep={1cm,between origins},
142    ] at (\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignments@,\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@matrixtemplate@%
143    \@karnaughmap@local@matrixtemplate@%

```

```

144     };
145 }{
146   \end{tikzpicture}
147   \endgroup
148 }

```


---

File 238 **lwarp-keyfloat.sty**

§ 347 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

keyfloat (*Pkg*) keyfloat is supported with a considerable amount of hacking. (It's a mashup of lwarp, keyfloat, and tocdata.)

 **keywrap** If placing a `\keyfig[H]` inside a keywrap, use an absolute width for `\keyfig`, instead of lw-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the lw option.)

For wrapped figures, overhang and number of lines are ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4   \PackageError{lwarp-keyfloat}
5     {%
6       The keyfloat package is out of date.\MessageBreak
7       Update to keyfloat v2.01 2019/09/23 or later%
8     }
9     {%
10      Please update the keyfloat package.  It's worth it!%
11    }
12 }

```

After keyfloat has loaded:

```

13 \AtBeginDocument{

```

`\KFLT@LWR@hook@boxouter` Integration for keyfloat.  
(*Hook*) [keyfloat]

```

14 \providecommand*\KFLT@LWR@hook@boxouter{}
15
16 \renewcommand*\KFLT@LWR@hook@boxouter{%
17   \ifbool{KFLT@keywrap}{%
18     }{%
19       \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20         \setlength{\linewidth}{6in}%
21         \setlength{\textwidth}{6in}%
22         \setlength{\textheight}{9in}%
23       }{%
24     }%
25   \normalcolor%
26 }

```

`\KFLT@LWR@hook@keysubfloats` Integration for keyfloat.  
(*Hook*) [keyfloat]

```
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

\KFLT@LWR@hook@keyfloatsminipage Integration for keyfloat.

(Hook) [keyfloat]

```
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

\KFLT@LWR@hook@keyfloats Integration for keyfloat.

(Hook) [keyfloat]

```
31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*{\KFLT@maybeendfloatrow}{%
34   \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
35     {}% thiscol < numcols
36     {}% >=
37     \defcounter{KFLT@thiscol}{0}%
38   }%
39 }%
40
41 \renewcommand{KFLT@trackrows}%
42 {%
```

If are nested inside a keyfloats or a subfloat:

```
43   \ifboolexpr{%
44     test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45     bool{KFLT@inkeysubfloats}%
46   }%
47   {% nested
```

Tracks row start and end:

```
48   \KFLT@maybestartfloatrow%
```

Possibly fill space between columns:

```
49   \ifnumgreater{\value{KFLT@thiscol}}{1}%
50   {%
51 %     \hfill%
52   }%
53   {}%
54 }% nested
55 {}% not nested
56 }
```

```
57 \RenewDocumentCommand{KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{KFLT@lw}}{}%
62   {%
```

```
63   \ifdimgreater{KFLT@h}{0pt}%
64   {%
65     \KFLT@frame{%
66       \includegraphics%
```

```

67         [%
68             scale=\KFLT@s,%
69             width=\KFLT@imagewidth,%
70             height=\KFLT@h,%
71             \KFLT@keepaspectratio,%
72         ]{#1}%
73     }%
74 }%
75 {%
76     \KFLT@frame{\includegraphics%
77         [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
78     }%
79 }%
80 {% not linewidth
81     \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
82     {% width is given
83         \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
84         {% w and h
85             \KFLT@frame{\includegraphics[%
86                 scale=\KFLT@s,%
87                 width=\KFLT@imagewidth,%
88                 height=\KFLT@h,%
89                 \KFLT@keepaspectratio,%
90             ]{#1}}%
91         }% w and h
92         {% only w
93             \KFLT@frame{\includegraphics%
94                 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
95             }% only w
96         }% width is given
97     {% width is not given
98         \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
99         {%
100             \KFLT@frame{\includegraphics%
101                 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
102             }%
103         {%
104             \KFLT@frame{\includegraphics%
105                 [scale=\KFLT@s]{#1}}%
106             }%
107         }% width is not given
108     }% not linewidth
109 % \end{lrbox}%
110 % \unskip%
111 % \KFLT@findenvboxwidth%
112 % \begin{turn}{\KFLT@r}%
113 % \KFLT@frame{\usebox{\KFLT@envbox}}%
114 % \unskip%
115 % \end{turn}%
116 \LWR@traceinfo{KFLT@onefigureimage: done}%
117 }

118 \RenewDocumentEnvironment{KFLT@boxinner}{}
119 {%
120     \LWR@traceinfo{KFLT@boxinner}%
121     \LWR@stoppars%
122     \minipagefullwidth%
123     \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
124         \fminipage{\KFLT@imagewidth}%
125     }%

```

```

126     \minipage{\KFLT@imagewidth}%
127   }%
128 }
129 {%
130   \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
131     \endfminipage%
132   }{%
133     \endminipage%
134   }%
135   \LWR@startpars%
136   \LWR@traceinfo{KFLT@boxinner: done}%
137 }

```

```

138 \newcommand*\LWR@KFLT@settalign}[1]{%
139   \def\LWR@KFLT@textalign{justify}%
140   \ifcsstring{KFLT@#1textalign}{\centering}%
141     {\def\LWR@KFLT@textalign{center}}%
142   }%
143   \ifcsstring{KFLT@#1textalign}{\raggedleft}%
144     {\def\LWR@KFLT@textalign{right}}%
145   }%
146   \ifcsstring{KFLT@#1textalign}{\raggedright}%
147     {\def\LWR@KFLT@textalign{left}}%
148   }%
149 }
150
151 \renewcommand{\KFLT@addtext}[1]
152 {%

```

Is there text to add?

```

153   \ifcsemtyp{KFLT@#1t}%
154   }% no text
155   {% text to add
156     {% local

```

Add some space, then create a <div> to contain the text:

```

157     \addvspace{\smallskipamount}%
158     \LWR@KFLT@settalign{#1}%
159     \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

160 %     \csuse{KFLT@#1textalign}%
161 %     \footnotesize%
162 %     \setlength{\parskip}{1.5ex}%
163 %     \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

164     \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

165     \end{BlockClass}%
166 %     \par\addvspace{2ex}%
167 %     }% local

```

```

168   }% text to add
169 }
170
171 \IfPackageLoadedTF{tocdata}
172 {}
173 {% tocdata not loaded
174
175   \newcommand*\LWR@KFLT@setnamealign[1]{%
176     \def\LWR@KFLT@textalign{justify}%
177     \ifstrequal{#1}{\centering}%
178       {\def\LWR@KFLT@textalign{center}}%
179     }%
180     \ifstrequal{#1}{\raggedleft}%
181       {\def\LWR@KFLT@textalign{right}}%
182     }%
183     \ifstrequal{#1}{\raggedright}%
184       {\def\LWR@KFLT@textalign{left}}%
185     }%
186   }
187
188   \renewcommand*\KFLT@addartisttext[3]{%

```

Add space and create the name inside a <div>:

```

189 %       \addvspace{\medskipamount}%
190 %     \begin{minipage}{\linewidth}%
191 %       \LWR@KFLT@setnamealign{#3}%
192 %     \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Text alignment is #3, and depends on artist or author:

```

193 %     #3%

```

#1 is empty or 'subgrp'  
 #2 is empty for artist, 'u' for author:

```

194       \footnotesize\textsc{%
195         \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
196         \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
197         \csuse{KFLT@#1a#2l}%
198         \csuse{KFLT@#1a#2s}%
199       }%
200 %     \end{minipage}%
201 %     \end{BlockClass}
202 %     \par\addvspace{2ex}%
203 %   }
204
205 }% tocdata not loaded

```

Env KFLT@marginfloat

[<offset>] {<type>}

```

206 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
207 {%
208   \uselengthunit{PT}%
209   \LWR@BlockClassWP%
210   {float:right; width:2in; margin:10pt}%
211   }%
212   (note)%
213   {marginblock}%

```

```

214 \renewcommand*{\@capttype}{#2}%
215 \minipage{1.2\LWR@usersmarginparwidth}%
216 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
217 }
218 {%
219 \endminipage%
220 \endLWR@BlockClassWP%
221 }

```

```

222 \DeclareDocumentEnvironment{marginfigure}{o}
223 {\begin{KFLT@marginfloat}{figure}}
224 {\end{KFLT@marginfloat}}
225
226 \DeclareDocumentEnvironment{margintable}{o}
227 {\begin{KFLT@marginfloat}{table}}
228 {\end{KFLT@marginfloat}}

```

Env keywrap

*{width}* *{keyfloat}*

```

229 \DeclareDocumentEnvironment{keywrap}{m +m}
230 {%
231 \begin{LWR@setvirtualpage}*
232 \setlength{\LWR@templengthone}{#1}%
233 \begin{LWR@BlockClassWP}%
234   {%
235     float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
236     margin:10pt%
237   }%
238   {}%
239   (note)%
240   {marginblock}%
241 \setlength{\linewidth}{.95\LWR@templengthone}%
242 \booltrue{KFLT@keywrap}%
243 #2%
244 \end{LWR@BlockClassWP}%
245 \end{LWR@setvirtualpage}%
246 }
247 {}

248 }% AtBeginDocument

```

---

File 239 **lwarp-keystroke.sty**

§ 348 Package **keystroke**

*(Emulates or patches code by WERNER FINK.)*

keystroke (*Pkg*) **keystroke** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

```

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3   \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6

```

```

7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*\LWR@HTML@BSpace{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*\LWR@HTML@Tab{\keystroke{|\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*\LWR@HTML@UArrow{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*\LWR@HTML@DArrow{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*\LWR@HTML@LArrow{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*\LWR@HTML@RArrow{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro\LWR@HTML@Shift\Shift
31 \xpatchcmd{\LWR@HTML@Shift}
32   {\$Uparrow$}
33   {\HTMLUnicode{21D1}}
34   {}
35   {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro\LWR@HTML@PgUp\PgUp
39 \xpatchcmd{\LWR@HTML@PgUp}
40   {\$uparrow$}
41   {\HTMLUnicode{2191}}
42   {}
43   {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro\LWR@HTML@PgDown\PgDown
47 \xpatchcmd{\LWR@HTML@PgDown}
48   {\$downarrow$}
49   {\HTMLUnicode{2193}}
50   {}
51   {}
52 \LWR@formatted{PgDown}

```


---

File 240 **lwarp-kpfonts.sty**

§ 349 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

kpfonts (*Pkg*) **kpfonts** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalasscript`.



The dedicated macros for Greek work correctly.

svg math should appear the same as the printed output.

```

for HTML output: 1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13   \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14   \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15   \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19   \LWR@mathjax@addgreek@l@up{}{}
20   \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22   \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26   \LWR@mathjax@addgreek@u@it*{}{}
27   \LWR@mathjax@addgreek@u@up*{other}{}
28   \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30   \LWR@mathjax@addgreek@u@it*{other}{}
31   \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50   \ifkp@upRm%
51     \CustomizeMathJax{
52       \def\D#1{\mathclose{\, \mathrm{d}}#1}
53     }
54   \else
55     \CustomizeMathJax{
56       \def\D#1{\mathclose{\, \mathit{d}}#1}

```

```

57     }
58     \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```


---

## File 241 **lwarp-kpfonts-otf.sty**

### § 350 Package **kpfonts-otf**


*(Emulates or patches code by DANIEL FLIPO.)*

kpfonts-otf (*Pkg*) kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14   \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18   \LWR@mathjax@addgreek@l@up[ ]{}
19   \LWR@mathjax@addgreek@u@up* [ ]{}
20 \fi
21
22 \ifkp@oldReIm
23   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi

```

```

27
28 \ifkp@Dcommand
29   \CustomizeMathJax{
30     \def\D#1{\mathclose{\, \mathrm{d}}#1}
31   }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{%
41   \mathop{\unicode{x2939}}\!\!\unicode{x0222E}}%
42 }}
43
44 \CustomizeMathJax{\newcommand{\voointclockwise}{%
45   \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%
46 }}
47
48 \CustomizeMathJax{\newcommand{\voointctrlockwise}{%
49   \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}%
50 }}
51
52 \CustomizeMathJax{\newcommand{\varointclockwise}{%
53   \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%
54 }}
55
56 \CustomizeMathJax{\newcommand{\varointctrlockwise}{%
57   \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}%
58 }}
59
60 \CustomizeMathJax{\newcommand{\voointclockwise}{%
61   \mathop{\unicode{x02230}}\!\!\unicode{x2938}}%
62 }}
63
64 \CustomizeMathJax{\newcommand{\voointctrlockwise}{%
65   \mathop{\unicode{x2939}}\!\!\unicode{x02230}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69   \mathop{\unicode{x02230}}\!\!\unicode{x2938}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
73   \mathop{\unicode{x2939}}\!\!\unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77   \mathop{\unicode{x2A16}}\!\!\unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiiint}{%
81   \mathop{\unicode{x2A16}}\!\!\unicode{x2A16}}\!\!\unicode{x2A16}}%
82 }}
83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}

```

---

```
87
88 \end{warpMathJax}
```

---

File 242 **lwarp-layaureo.sty**

§ 351 Package **layaureo**

layaureo (*Pkg*) layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 243 **lwarp-layout.sty**

§ 352 Package **layout**

layout (*Pkg*) layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

```
1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]
2 \NewDocumentCommand{\layout}{s}{}

```

---

File 244 **lwarp-layouts.sty**

§ 353 Package **layouts**

layouts (*Pkg*) layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```
2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}

```

```
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparametertextfont}[1]{}
24 \newcommand{\setvaluetextsize}[1]{}
25 \newcommand{\setlayoutscales}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnoteline}[1]{}

```

```
82 \newcommand{\tryfootruleheight}[1]{  
83 \newcommand{\tryfootrulefrac}[1]{  
84 \newcommand{\currentfootnote}{  
85 \newcommand{\drawfootnote}{(draw footnote)}  
86 \newcommand{\footnotediagram}{(footnote diagram)}  
87 \newcommand{\footnotedesign}{(footnote design)}  
88 \newcommand{\footnotevalues}{(footnote values)}  
89 \newcommand{\tryparindent}[1]{  
90 \newcommand{\tryparlinewidth}[1]{  
91 \newcommand{\tryparbaselineskip}[1]{  
92 \newcommand{\currentparagraph}{  
93 \newcommand{\drawparagraph}{(draw paragraph)}  
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}  
95 \newcommand{\paragraphdesign}{(paragraph design)}  
96 \newcommand{\paragraphvalues}{(paragraph values)}  
97 \newcommand{\trybeforeskip}[1]{  
98 \newcommand{\tryafterskip}[1]{  
99 \newcommand{\tryindent}[1]{  
100 \newcommand{\currentheading}{  
101 \newcommand{\drawheading}[1]{(draw heading)}  
102 \newcommand{\headingdiagram}[1]{(heading diagram)}  
103 \newcommand{\headingdesign}[1]{(heading design)}  
104 \newcommand{\headingvalues}{(heading values)}  
105 \newcommand{\trytextfloatsep}[1]{  
106 \newcommand{\tryfloatsep}[1]{  
107 \newcommand{\tryintextsep}[1]{  
108 \newcommand{\trytopfigrule}[1]{  
109 \newcommand{\trybotfigrule}[1]{  
110 \newcommand{\currentfloat}{  
111 \newcommand{\drawfloat}{(draw float)}  
112 \newcommand{\floatdiagram}{(float diagram)}  
113 \newcommand{\floatdesign}{(float design)}  
114 \newcommand{\floatvalues}{(float values)}  
115 \newcommand{\trytotalnumber}[1]{  
116 \newcommand{\trytopnumber}[1]{  
117 \newcommand{\trybottomnumber}[1]{  
118 \newcommand{\trytopfraction}[1]{  
119 \newcommand{\trytextfraction}[1]{  
120 \newcommand{\trybottomfraction}[1]{  
121 \newcommand{\currentfloatpage}{  
122 \newcommand{\drawfloatpage}{(draw floatpage)}  
123 \newcommand{\floatpagediagram}{(floatpage diagram)}  
124 \newcommand{\floatpagedesign}{(floatpage design)}  
125 \newcommand{\floatpagevalues}{(floatpage values)}  
126 \newcommand{\trytocindent}[1]{  
127 \newcommand{\trytocnumwidth}[1]{  
128 \newcommand{\trytoclinewidth}[1]{  
129 \newcommand{\trytocrmarg}[1]{  
130 \newcommand{\trytocpnumwidth}[1]{  
131 \newcommand{\trytocdotsep}[1]{  
132 \newcommand{\currenttoc}{  
133 \newcommand{\drawtoc}{(draw toc)}  
134 \newcommand{\tocdiagram}{(toc diagram)}  
135 \newcommand{\tocdesign}{(toc design)}  
136 \newcommand{\tocvalues}{(toc values)}  
137 \newcommand{\drawaspread}[8][0]{(a spread)}  
138 \newcommand{\drawfontframe}[1]{(font frame)}  
139 \newcommand{\drawfontframeLabel}[1]{
```

---

File 245 **lwarp-leading.sty**

§ 354 Package **leading**

leading (*Pkg*) leading is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]  
2 \newcommand\leading[1]{}  

---

File 246 **lwarp-leftidx.sty**

§ 355 Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

leftidx (*Pkg*) leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]  
2 \begin{warpMathJax}  
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}  
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{!\#1}}}  
5 \end{warpMathJax}  

---

File 247 **lwarp-letterspace.sty**

§ 356 Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

letterspace (*Pkg*) letterspace is a subset of microtype, which is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-letterspace:  
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]  
2 \newcommand\*\lsstyle{}  
3 \newcommand\textls[2][[]{}  
4 \def\textls#1#{}  
5 \newcommand\*\lslig[1]{#1}  

---

File 248 **lwarp-lettrine.sty**

§ 357 Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

lettrine (*Pkg*)    **lettrine** is emulated.

**for HTML output:** Discard all options for **lwarp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [<keys>] {<letter>} {<additional text>}`

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3   \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{\0}
11 \newcommand*\DefaultLraise{\0}
12 \newcommand*\DefaultLhang{\0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}
```

---

File 249    **lwarp-libertinust1math.sty**

§ 358    Package    **libertinust1math**

*(Emulates or patches code by MICHAEL SHARPE.)*

`libertinust1math` (*Pkg*)    **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors `frenchmath` for Greek but not Latin characters, and `slantedGreek`, `uprightGreek`, and `ISO` also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:**



```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \if\libus@slantedG
9   \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11   \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \if\libus@frenchm
19   \LWR@mathjax@addgreek@l@up{}{}
20 \else
21   \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 %   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 %   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintslop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\oint\int}
75 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiiintslop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointupop\int}
83 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\int}
97 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}

```

```

111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatoprighth}[1]{\mathord{#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smblkcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}

```

```

171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x02220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}

```

```

231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubseteq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupseteq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedgqq}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeqq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x00B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x00A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x00B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}

```

```

291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullyseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsime}
324 \CustomizeMathJax{\let\nle\leq}
325 \CustomizeMathJax{\let\nge\geq}
326
327 \end{warpMathJax}

```

---

File 250 **lwarp-lineno.sty**

§ 359 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

lineno (*Pkg*) **lineno** is partly emulated, but mostly ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{
3
4 \def\linenumbers{%
5     \ifnextchar[{\resetlinenumber}%
6         {\@ifstar{\resetlinenumber}}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10

```

```

11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63   (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers

```

```

71  {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73  \newdimen\linenumbersep
74  \newdimen\linenumberwidth
75  \newdimen\quotelinenumbersep
76
77  \quotelinenumbersep=\linenumbersep
78  \let\quotelinenumberfont\linenumberfont
79
80  \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83  \linenumberwidth=10pt
84  \linenumbersep=10pt
85
86  \def\thelinenumber{}
87
88  \def\LineNumber{}
89  \def\makeLineNumber{}
90  \def\makeLineNumberLeft{}
91  \def\makeLineNumberRight{}
92  \def\makeLineNumberOdd{}
93  \def\makeLineNumberEven{}
94  \def\makeLineNumberRunning{}
95
96
97  \newenvironment{numquote}    {\quote}{\endquote}
98  \newenvironment{numquotation}{\quotation}{\endquotation}
99  \newenvironment{numquote*}  {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110   \LWR@forceminwidth{\bframerule}%
111   \BlockClass[
112     border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113     padding:\LWR@printlength{\bframesep}%
114   ]{bframe}
115 }
116 {\endBlockClass}

```

---

File 251 **lwarp-lips.sty**

§ 360 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

`lips (Pkg)` `lips` is emulated.

```

1% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarp}{Using the lwarp version of package 'lips'.}%

```



```

3 \ProvidesPackage{lwarp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}

```

---

File 252 **lwarp-lipsum.sty**

§ 361 Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

`lipsum (Pkg)` lipsum is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]

```

2 \SetLipsumParListItemEnd{%
3   \LWR@closeparagraph%

4   \leavevmode\LWR@orignewline%

5 }

```

---

File 253 **lwarp-listings.sty**

§ 362 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

`listings (Pkg)` listings is supported with some limitations. Text formatting and escape characters are not yet supported.

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```
3 \let\LWR@origlst@Init\lst@Init
```

```

4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lo1}{#1}{#2}}

```

\lstset

*{<options>}*Use the listings `literate` option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10% \ifx\@empty#1%
11%     \@empty%
12%     \else%
13%         \setkeys{lst}{%
14%             #1%
15%             ,literate=%
16%             {<}\HTMLentity{lt}}{4}%
17%             {>}\HTMLentity{gt}}{4}%
18%             {'}\HTMLentity{apos}}{6}%
19%             {'}\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;`; elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```

20         }%
21%     \fi%
22 }

```

\lst@Init

*{<backslash-processing>}* Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
24 \LWR@traceinfo{\lst@Init}%
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle%         lwarp
26 \LWR@forcenewpage%         lwarp
27 \fi%                         lwarp

```

Escapes do not work yet, and are disabled:

```

28 \let\lst@ifmathescape\iffalse%         lwarp
29 \let\lst@DefEsc\relax%                 lwarp
30 \def\lst@escapebegin{}%                 lwarp
31 \def\lst@escapeend{}%                   lwarp

32 \renewcommand*{\@capttype}{\lstlisting}%         lwarp
33 \let\lst@aboveskip\z@\let\lst@belowskip\z@%         lwarp
34 \gdef\lst@boxpos{t}%                         lwarp
35 \let\lst@frame\@empty%                       lwarp
36 \let\lst@frametshape\@empty%                 lwarp
37 \let\lst@framershape\@empty%                 lwarp
38 \let\lst@framebshape\@empty%                 lwarp
39 \let\lst@framelshape\@empty%                 lwarp
40 \lstframe@lst@frameround ffff\relax%         lwarp
41 \lst@multicol\@empty%                         lwarp
42 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

43         \hbadness=10000\relax%
44     \ifx\lst@float\relax\else%
45         \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]}%
46         \expandafter\@tempa%
47     \fi%
48     \ifx\lst@multicols\@empty\else%
49         \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
50         \expandafter\lst@next%
51     \fi%
52     \ifhmode\ifinner \lst@boxtrue \fi\fi%
53     \lst@ifbox%
54         \lsthk@BoxUnsafe%
55         \hbox to\z@\bgroup%
56             $\if t\lst@boxpos \vtop%
57             \else \if b\lst@boxpos \vbox%
58             \else \vcenter \fi\fi%
59         \bgroup \par\noindent%
60     \else%
61         \lst@ifdisplaystyle%
62             \lst@EveryDisplay%
63             \par\penalty-50\relax%
64             \vspace\lst@aboveskip%
65         \fi%
66     \fi%
67     \normalbaselines%
68     \abovecaptionskip\lst@abovecaption\relax%
69     \belowcaptionskip\lst@belowcaption\relax%
70     \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

71 \LWR@traceinfo{\lst@Init: defining current label !\@currentlabel!}%
72 \let\LWR@listings@currentlabel\@currentlabel%          lwarp
73 \LWR@traceinfo{\lst@Init: defining current label !\cref@currentlabel!}%
74 \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

75 \LWR@traceinfo{\lst@Init: preinit and init}%
76 \lsthk@PreInit \lsthk@Init%

77 \let\@currentlabel\LWR@listings@currentlabel%          lwarp
78 \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

79 \LWR@traceinfo{\lst@Init: M}%
80 \lst@ifdisplaystyle
81     \global\let\lst@ltxlabel\@empty
82     \if@inlabel
83         \lst@ifresetmargins
84             \leavevmode
85         \else
86             \xdef\lst@ltxlabel{\the\everypar}%
87             \lst@AddTo\lst@ltxlabel{%
88                 \global\let\lst@ltxlabel\@empty
89                 \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
90         \fi
91     \fi
92     \everypar\expandafter{\lst@ltxlabel
93                         \lsthk@EveryLine\lsthk@EveryPar}%
94 \else
95     \everypar{}
96     \let\lst@NewLine\@empty

```

```

97   \fi
98 \LWR@traceinfo{\lst@Init: P}%
99   \lsthk@InitVars \lsthk@InitVarsBOL
100  \lst@Let{13}\lst@MProcessListing
101  \let\lst@Backslash#1%
102  \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
103  \lst@InitFinalize%
104 \LWR@traceinfo{\lst@Init: S}%

```

Avoids extra horizontal space:

```

105 \def\lst@frameLr{}%      lwarp
106 \LWR@traceinfo{\lst@Init: finished origlst@Init}%
107 \lst@ifdisplaystyle%     lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

108  \LWR@traceinfo{\lst@Init: About to create verbatim.}% lwarp
109  \let\lsthk@EveryPar\relax%                          lwarp

110  \LWR@atbeginverbatim{programlisting}%               lwarp
111
112  \let\lsthk@EveryPar\LWR@origlsthkEveryPar%         lwarp
113 \else%                                               lwarp

```

Inline, so open a <span>:

```

114  \ifbool{LWR@verbtags}{\LWR@htmltag%                lwarp
115    span class=\textquotedbl{}inlineprogramlisting\textquotedbl%  lwarp
116  }}{}%                                               lwarp
117 \fi%                                               lwarp
118 \LWR@traceinfo{\lst@Init: done}%
119 }

```

\lst@DeInit

Done at the end of a listing.

```

120 \renewcommand*{\lst@DeInit}{}%
121 \LWR@traceinfo{\lst@DeInit}%
122 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```

123  \let\lsthk@EveryPar\relax%
124  \LWR@afterendverbatim%
125  \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
126 \else%

```

Inline, so create the closing </span>:

```

127  \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
128 \fi%

```

Final listings deinit:

```

129  \lst@XPrintToken \lst@EOLUpdate
130  \global\advance\lst@newLines\m@ne
131  \lst@ifshowlines
132    \lst@DoNewLines
133  \else
134    \setbox\@tempboxa\vbox{\lst@DoNewLines}%
135  \fi

```

```

136 \lst@ifdisplaystyle \par\removelastskip \fi
137 \lsthk@ExitVars\everypar{}\lsthk@DeInit\normalbaselines\normalcolor
138 \lst@MakeCaption b%
139 \lst@ifbox
140 \egroup $\hss \egroup
141 \vrule\@width\lst@maxwidth\@height\z@\@depth\z@
142 \else
143 \lst@ifdisplaystyle
144 \par\penalty-50\vspace\lst@belowskip
145 \fi
146 \fi
147 \ifx\lst@multicols\@empty\else
148 \def\lst@next{\global\let\@checkend\@gobble
149 \endmulticols
150 \global\let\@checkend\lst@@checkend}
151 \expandafter\lst@next
152 \fi
153 \ifx\lst@float\relax\else
154 \expandafter\lst@endfloat
155 \fi
156 \endgroup
157 \LWR@traceinfo{\lst@DeInit done}%
158 }

```

\lst@MakeCaption

{*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```

159 \def\lst@MakeCaption#1{%
160 \LWR@traceinfo{\lst@MakeCaption at #1}%
161 \lst@ifdisplaystyle
162 \LWR@traceinfo{\lst@MakeCaption: making a listings display caption}%
163 \ifx #1t%
164 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
165 \expandafter\refstepcounter
166 \fi {\lstlisting}%
167 % \LWR@traceinfo{About to assign label: !\lst@label!}%
168 % \ifx\lst@label\@empty\else
169 % \label{\lst@label}\fi
170 % \LWR@traceinfo{Finished assigning the label.}%
171 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
172 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
173 \lst@ifnolol\else
174 \ifx\lst@caption\@empty
175 \ifx\lst@caption\@empty
176 \ifx\lst@intname\@empty
177 \else
178 \def\lst@temp{ }%
179 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```

180 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
181 % \addcontentsline{lol}{\lstlisting}{\lst@name}
182 \fi
183 \fi
184 \fi
185 \else

```

This would have to be modified for `lwarp`:

```

186 \LWR@traceinfo{lst@MakeCaption: addcontents lst@caption: -\lst@caption-}%
187         \addcontentsline{lol}{lstlisting}%
188 {\protect\numberline{\thelstlisting}%
189 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
190         \fi
191     \fi
192 \fi
193 \ifx\lst@caption\empty\else
194 \LWR@traceinfo{lst@MakeCaption: lst@caption not empty-}%
195     \lst@ifsubstring #1\lst@captionpos
196     {\begingroup
197 \LWR@traceinfo{lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

198 %             \let\@vskip\vskip
199 %             \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
200 %             \def\lst@vskip{\nobreak\@vskip\@tempskipa\nobreak}%
201 %             \par\@parboxrestore\normalize\normalfont % \noindent (AS)
202 %             \ifx #1t\allowbreak \fi
203             \ifx\lst@title\empty

```

New `lwarp` code to create a caption:

```

204             \LWR@stoppars%         lwarp
205             \lst@makecaption\fnnum@lstlisting{\ignorespaces \lst@caption}
206             \else

```

New `lwarp` code to create a title:

```

207 %             \lst@maketitle\lst@title % (AS)
208 \LWR@traceinfo{lst@MakeCaption: Making title: \lst@title}%
209 \begin{BlockClass}{lstlistingtitle}%         lwarp
210 \lst@maketitle\lst@title%                     lwarp
211 \end{BlockClass}%                             lwarp
212         \fi%
213 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
214     \ifx\lst@label\empty\else%
215 \leavevmode% gets rid of bad space factor error
216 \GetTitleStringExpand{\lst@caption}%
217 \edef\LWR@lntemp{\GetTitleStringResult}%
218 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
219 \label{\lst@label}\fi%
220 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}%

```

Not needed for `lwarp`:

```

221 %             \ifx #1b\allowbreak \fi
222             \endgroup}{}%
223     \fi
224 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
225 \else
226 \LWR@traceinfo{lst@MakeCaption: INLINE}%
227 \fi
228 \LWR@traceinfo{lst@MakeCaption: done at #1}%
229 }
230
231 \renewcommand{\lst@maketitle}[1]{%
232     \LWR@isolate{#1}%
233 }%
234

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

235 \lst@Key{numbers}{none}{%
236   \let\lst@PlaceNumber\@empty
237   \lstKV@SwitchCases{#1}%
238   {none:\\%
239     left:\def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

240 %       \LWR@origllap{
241         \LWR@originormalfont%
242         \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
243 %     }
244   }\\%
245   right:\def\lst@PlaceNumber{\LWR@origrllap{\LWR@originormalfont
246     \kern 6in \kern\lst@numbersep
247       \lst@numberstyle{\the\lstnumber}}}%
248   }\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}

```

---

File 254 **lwarp-listliketab.sty**

§ 363 Package **listliketab**

`listliketab (Pkg)` `listliketab` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```

2 \newcommand*\storestyleof}[1]{}
3 \newcommand*\storeliststyle{}
4 \newenvironment{listliketab}{}{}

```

---

File 255 **lwarp-lltjext.sty**

§ 364 Package **lltjext**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

`lltjext (Pkg)` `lltjext` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```

2 \protected\def\yoko{%
3   \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10

```

```

11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
25   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26   {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

---

File 256 **lwarp-lltjp-siunitx.sty**

§ 365 Package **lltjp-siunitx**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)

lltjp-siunitx (*Pkg*) **lltjp-siunitx** is patched for use by lwarp.

**for HTML output:** 1\LWR@ProvidesPackagePass{lltjp-siunitx}% 2021-10-31, no date assigned in file

This is the siunitx v3 file, as patched by lltjp-siunitx.

```

2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \siunitx_print_text:n #1
5 {
6   \text
7   {
8     \ltj@allalchar % <--- LuaTeX-ja
9     \bool_if:NT \l__siunitx_print_text_family_bool
10    { \fontfamily { \familydefault } }
11    \bool_if:NT \l__siunitx_print_text_series_bool
12    { \fontseries { \seriesdefault } }
13    \bool_if:NT \l__siunitx_print_text_shape_bool
14    { \fontshape { \shapedefault } }
15    \bool_lazy_any:nT
16    {

```



```

17         { \l__siunitx_print_text_family_bool }
18         { \l__siunitx_print_text_series_bool }
19         { \l__siunitx_print_text_shape_bool }
20     }
21     { \selectfont }
22     \tl_use:N \l__siunitx_print_text_font_tl
23     \exp_args:NnV \tl_if_head_eq_meaning:nNTF {#1} \l_siunitx_unit_fraction_tl
24     {
25         \__siunitx_print_text_fraction:Nnn #1
26     }
27     {
28         \__siunitx_print_text_replace:n {#1}
29     }
30 }
31 }
32
33 \ExplSyntaxOff

```

---

File 257 **lwarp-lltjp-tascmac.sty**

§ 366 Package **lltjp-tascmac**

lltjp-tascmac (*Pkg*) lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 258 **lwarp-longtable.sty**

§ 367 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

longtable (*Pkg*) longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}[ [column specifiers] ]
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . . .
\warphTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **`lateximage`** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

`longtable (env)` \* [`<horizontalignment>`] [`<colspec>`] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][]{%
5   \LWR@floatbegin{table}%
6   \ifdef{\setcaptiontype}{% caption package:
7     \setcaptiontype{\LTcaption}%
8     \caption@setoptions{longtable}%
9     \caption@setoptions{@longtable}%
10    \caption@LT@setup%
11  }{% w/o caption package:
12    \renewcommand*{\@caption}{\LTcaption}%
13  }%
14  \booltrue{LWR@starredlongtable}%
15  \boolfalse{LWR@longtable@havehead}%
16  \let\captionlistentry\LWR@LTcaptionlistentry%
17  \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22   \LWR@floatbegin{table}%
23   \ifdef{\setcaptiontype}{% caption package:
24     \setcaptiontype{\LTcaption}%
25     \caption@setoptions{longtable}%
26     \caption@setoptions{@longtable}%
27     \caption@LT@setup%
28  }{% w/o caption package:
29    \renewcommand*{\@caption}{\LTcaption}%
30  }%
31  \refstepcounter{\LTcaption}%
32  \boolfalse{LWR@longtable@havehead}%
33  \let\captionlistentry\LWR@LTcaptionlistentry%
34  \tabular{#2}%
```

```
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksizes}
```

Error for heads which should have been in \warpprintonly:

```
38 \newcommand*{\LWR@longtable@headerror}{%
39   \PackageError{lwarp-longtable}
40   {For longtable:\MessageBreak
41   1: Keep either one of an \protect\endhead\space or\MessageBreak
42     \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43     \space to be used by both print and HTML.\MessageBreak
44   2: Place any other \protect\end... phrases inside a\MessageBreak
45     \space\protect\warpprintonly\space macro,
46     to be ignored by HTML.\MessageBreak
47   3: At the end of the table,\MessageBreak
48     \space add a final footer for HTML\MessageBreak
49     \space inside a \protect\warpprintonly\space macro.
50     This can be\MessageBreak
51     \space a copy of an \protect\endfoot\space or
52     \protect\endfirstfoot\space\MessageBreak
53     \space phrase, but without the actual \protect\endfoot\space\MessageBreak
54     \space or \protect\endfirstfoot\space macros.\MessageBreak
55     \space If using threeparttablex, add\MessageBreak
56     \space \protect\insertTableNotes\space here,
57     optionally with\MessageBreak
58     \space \protect\UseMinipageWidths\space in front.\MessageBreak
59   See the Lwarp documentation regarding\MessageBreak
60   longtables and threeparttablex}
61   {See the Lwarp documentation regarding longtables and threeparttablex.}
62 }
```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```
63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}%
65   {\LWR@longtable@headerror}%
66   {%
67     \booltrue{\LWR@longtable@havehead}
68     \LWR@tabularendofline% throws away options //[dim] and //*
69   }%
70 }
```

Error if more than one of these is outside of warpprint.

```
71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}
```

Error if ANY of these is outside of warpprint.

```
73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}
```

```
75 \let\tabularnewline\
```

```

76 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*\kill{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%
88 }

```

File 259 **lwarp-lpic.sty**

§ 368 Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

lpic (*Pkg*) **lpic** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

2 \BeforeBeginEnvironment{lpic}{%
3   \begin{lateximage}[-lpic~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

File 260 **lwarp-lscape.sty**

§ 369 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

lscape (*Pkg*) **lscape** is ignored.

**for HTML output:** Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

2 \newenvironment*{landscape}{}{}

```

File 261 **lwarp-ltablex.sty**

§ 370 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

`ltablex (Pkg)` `ltablex` is emulated by `lwarp`.

**for HTML output:** Relies on `tabularx`.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*\keepXColumns{}
15 \newcommand*\convertXColumns{}

```

---

File 262 **lwarp-ltcaption.sty**

§ 371 Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

`ltcaption (Pkg)` `ltcaption` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]`

`\LTcaptype` is already defined by `lwarp`.

`longtable*` is already defined by `lwarp-longtable`.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*\LTcapmarginfalse{}

```

---

File 263 **lwarp-ltxgrid.sty**

§ 372 Package **ltxgrid**

`ltxgrid (Pkg)` `ltxgrid` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]`

```

2 \newcommand*\onecolumngrid{}
3 \newcommand*\twocolumngrid{}
4 \newcommand*\removestuff{}
5 \newcommand*\addstuff}[2]{}
6 \newcommand*\replacestuff}[2]{}


```

---

File 264 **lwarp-ltxtable.sty**

§ 373 Package **ltxtable**

`ltxtable (Pkg)` ltxtable is emulated.

 **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while `lwarp` does.

**for HTML output:**

```
1 \RequirePackage{tabularx, longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]
```

```
\LTXtable
    <{width}> <{file}>
3 \newcommand*\LTXtable[2]{%
4   \input{#2}%
5 }
```

---

File 265 **lwarp-lua-check-hyphen.sty**

§ 374 Package **lua-check-hyphen**

`lua-check-hyphen (Pkg)` lua-check-hyphen is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]
2 \newcommand*\LuaCheckHyphen[1]{}
```

---

File 266 **lwarp-lua-visual-debug.sty**

§ 375 Package **lua-visual-debug**

`lua-visual-debug (Pkg)` lua-visual-debug is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]
```

---

File 267 **lwarp-luacolor.sty**

§ 376 Package **luacolor**

`luacolor (Pkg)` luacolor is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]
2 \newcommand*\LuacolorProcessBox[1]{}
```

---

File 268 **lwarp-luamplib.sty**

§ 377 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DO-HYUN.)

luamplib (*Pkg*) **luamplib** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]
2 \BeforeBeginEnvironment{mplibcode}{%
3   \begin{lateximage}[-mplibcode--\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}
```

---

File 269 **lwarp-luatexko.sty**

§ 378 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

luatexko (*Pkg*) **luatexko** is patched for use by lwarp.

Modern HTML is used for `\dotemph`, `\ruby`, and offset and thickness control for `\uline`, etc.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luatexko}[2021/07/10]
2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontalrb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}
14 \newcommand{\LWR@HTML@dotemph}[1]{%
15   \uline{#1}%
16   \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}
19 \newcommand{\LWR@HTML@ruby}[2]{%
20   \LWR@htmltagc{ruby}%
21   #1%
22   \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}}%
```

```

23 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
24 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
25 \LWR@htmltagc{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29 \InlineClass%
30 (text-decoration:underline; text-decoration-skip: auto)%
31 [%
32 text-decoration:underline; text-decoration-skip: auto;
33 text-decoration-thickness: \ulinewidth%
34 ]%
35 {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40 \InlineClass%
41 (%
42 text-decoration:underline; text-decoration-skip: auto;%
43 text-decoration-style:double%
44 )%
45 [%
46 text-decoration:underline; text-decoration-skip: auto;
47 text-decoration-thickness: \ulinewidth%
48 ]%
49 {uuline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54 \InlineClass%
55 (%
56 text-decoration:underline; text-decoration-skip: auto;%
57 text-decoration-style:wavy%
58 )%
59 [%
60 text-decoration:underline; text-decoration-skip: auto;
61 text-decoration-thickness: \ulinewidth%
62 ]%
63 {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68 \InlineClass%
69 (text-decoration:line-through)%
70 [text-decoration-thickness: \ulinewidth]%
71 {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76 \InlineClass%
77 (text-decoration:line-through)%
78 [text-decoration-thickness: \ulinewidth]%
79 {xout}{\LWR@isolate{#1}}%

```



```

80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84   \InlineClass%
85     (%
86       text-decoration:underline;%
87       text-decoration-skip: auto;%
88       text-decoration-style:dashed%
89     )%
90     [%
91       text-underline-offset: \ulinedown ;
92       text-decoration-thickness: \ulinewidth%
93     ]%
94     {dashuline}{\LWR@isolate{#1}}%
95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99   \InlineClass%
100     (%
101       text-decoration:underline;%
102       text-decoration-skip: auto;%
103       text-decoration-style: dotted%
104     )%
105     [%
106       text-underline-offset: \ulinedown ;
107       text-decoration-thickness: \ulinewidth%
108     ]%
109     {dotuline}{\LWR@isolate{#1}}%
110 }
111 \LWR@formatted{dotuline}

```

---

File 270 **lwarp-luatodonotes.sty**

§ 379 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Luatodonotes (*Pkg*) **luatodonotes** is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** `1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]`

Nullify options:

```
2 \@todonotes@additionalMarginEnabledfalse
```

```
3 \if@todonotes@disabled
```

```
4 \else
```

```
5
```

```
6 \newcommand{\ext@todo}{tdo}
```

```
7
```

```
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}
```

```

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*\todototoc{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19   {\@todonotes@currentbordercolor}
20   {\@todonotes@currentbackgroundcolor}
21   {\arabic{\@todonotes@numberoftodonotes}}
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27   {\@todonotes@currentbordercolor}%
28   {\@todonotes@currentbackgroundcolor}%
29   {%
30     \if@todonotes@authorgiven%
31       {\@todonotes@author:\,}%
32       \fi%
33     \@todonotes@text%
34   }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38   \if@todonotes@authorgiven%
39     \@todonotes@author\par%
40   \fi%
41   \arabic{\@todonotes@numberoftodonotes}: %
42   \fcolorbox%
43     {\@todonotes@currentbordercolor}%
44     {\@todonotes@currentbackgroundcolor}%
45     {%
46       \@todonotes@sizecommand%
47       \@todonotes@text %
48     }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55   {\@todonotes@currentbordercolor}%
56   {\@todonotes@currentfigcolor}%
57   {%
58     \setlength{\fboxrule}{4pt}%
59     \fcolorbox{red}{white}{Missing figure} \quad #2%
60   }
61 }
62
63 \letLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%

```

```

69 \endgroup%
70 }
71
72 \renewcommand{\@todoarea}[3][\%
73   \@todonotes@areaselectedtrue%
74   \@todocommon{#1}{#2}%
75   \@todonotes@textmark@highlight{#3}%
76   \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
77 ]%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{B3FFB3}{highlight}{#1}%
82 }
83
84 \fi% \if@todonotes@disabled

```

---

File 271 **lwarp-luavlna.sty**

§ 380 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

luavlna (*Pkg*) luavlna is patched for use by lwarp.

The package is disabled for HTML output, due to incompatibilities with lwarp's handling of math SVG images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]
2 \preventsingloff
3 \LetLtxMacro\preventsingleon\preventsingloff

```

---

File 272 **lwarp-lyluatex.sty**


§ 381 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)


lyluatex (*Pkg*) lyluatex is patched for use by lwarp.

For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

**css** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To

match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

- ⚠ **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}
```

- ⚠ **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to `svg`:

```
Enter ⇒ lwarpmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2022/11/07]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond--\PackageDiagramAltText}
```

`\ly@compilescore`

`{(Lilypond object)}`

```
5 \LetLtxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by `lyluatex.lua` to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@originincludegraphics{##2}%
17 \end{lateximage}%
18 }%
19 }%
```

From the original:

```
20 \ly@setunits%
21 \setluaoption{ly}{currfiledir}{\currfiledir}
22 \setluaoption{ly}{twoside}{\ly@istwosided}
23 \directlua{
24 #1
25 ly.newpage_if_fullpage()}
```

```

26   }%
27   \ly@resetunits%
28   \ly@currentfonts%

```

The fullpage version is set inside an HTML <div>:

```

29   \directlua{
30       if (ly.score.insert == 'fullpage') then
31           tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
32       end
33   }%

```

Generate the score:

```

34   \directlua{ly.score:process()}%

```

Close the <div>:

```

35   \directlua{
36       if (ly.score.insert == 'fullpage') then
37           tex.print{[[\string\end{BlockClass}]]}
38       end
39   }%

```

Move to a new page and renew the regular page geometry:

```

40   \LWR@maybe@orignewpage%
41   \LWR@origrestoregeometry%

```

End of the local group.

```

42   \endgroup%
43 }

```

In HTML the following generates an error, so is removed:

```

44 \xpatchcmd{\endly@bufferenv}
45   {\hspace{0pt}\}
46   {}
47   {}
48   {\LWR@patcherror{lyluatex}{endly@bufferenv}}

```

File 273 **lwarp-magaz.sty**

§ 382 Package **magaz**

magaz (*Pkg*) **magaz** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3   \begingroup%
4   \FirstLineFont{%
5     \LWR@textcurrentcolor{%
6       \LWR@textcurrentfont{%
7         #1%
8       }%
9     }%
10  }%
11  \endgroup%
12 }

```

```
13
14 \providecommand\FirstLineFont{\scshape}
```

---

File 274 **lwarp-makeidx.sty**

§ 383 Package **makeidx**

(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)

makeidx (*Pkg*) makeidx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \@AtBeginDocument by the lwarp core.

\printindex

```
2 \preto\printindex{%
3   \LWR@maybe@orignewpage%
4   \LWR@startpars%
5 }
```

---

File 275 **lwarp-manyfoot.sty**

§ 384 Package **manyfoot**

manyfoot (*Pkg*) manyfoot is emulated.

**bigfoot, manyfoot** Verbatim footnotes are not yet supported.

 **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

**lwarp**'s emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **lwarp** version instead.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
3
```

```

4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}
16
17 \newcommand*\ExtraParaSkip[1]{}
18
19 \newcommand*\newfootnote[2][plain]{%
20   \ifstrequal{#2}{default}{}{% not "default"
21     \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22     \appto{\LWR@printpendingfootnotes}{%
23       \LWR@@printpendingfootnotes{footnote#2}%
24     }
25     \long\csdef{Footnotetext#2}##1##2{%
26       \NCC@makefnmark{##1}%
27       \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28     }%
29     \long\csdef{Footnotetext#2+}##1##2{%
30       \NCC@makefnmark{##1}%
31       \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32     }%
33   }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{%
38   \@ifnextchar[%
39     {\LWR@manyfoot@declare{#1}{#2}}%
40     {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44   \ifstrequal{#2}{default}{}{% not "default"
45     \newfootnote[#1]{#2}%
46     \newcounter{footnote#2}%
47     \newcounter{footnote#2Reset}%
48     \setcounter{footnote#2Reset}{0}%
49     \csdef{thefootnote#2}{%
50       \expandafter\noexpand\csname @#3\endcsname%
51       \expandafter\noexpand\csname c@footnote#2\endcsname%
52     }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54   \stepcounter{footnote#2}%
55   \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56   \@footnotemark%
57   \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%

```

---

```

60     \stepcounter{footnote#2}%
61     \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62     \@footnotemark%
63   }%
64   \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65     \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66     \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67   }%
68   \csdef{Footnotemark#2}{%
69     \Footnotemark%
70   }%
71   \csdef{Footnote#2}##1{%
72     \Footnotemark{##1}%
73     \csuse{Footnotetext#2}{##1}%
74   }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

File 276 **lwarp-marginal.sty**

§ 385 Package **marginal**

`marginal (Pkg)` `marginal` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand\*{\showlostmarginals}{}

3 \newcommand\*{\enlargefreelist}{}

4 \newcommand\*{\onesidemarginals}{}

---

File 277 **lwarp-marginfit.sty**

§ 386 Package **marginfit**

`marginfit (Pkg)` `marginfit` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfit`:

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

---

File 278 **lwarp-marginfix.sty**

§ 387 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

`marginfix (Pkg)` `marginfix` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfix`:

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]



---

```

2 \newcommand*\marginkip}[1]{}
3 \newcommand*\clearmargin{}
4 \newcommand*\softclearmargin{}
5 \newcommand*\extendmargin}[1]{}
6 \newcommand*\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin}[1][{}{}
10 \newcommand*\unblockmargin}[1][{}{}
11 \newcommand*\marginphantom}[2][{}{}

```

---

File 279 **lwarp-marginnote.sty**

§ 388 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

marginnote (*Pkg*) marginnote is emulated.

**for HTML output:** Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

11 \appto\LWR@restoreorigformatting{%
12   \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

For MATHJAX:

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][{}]}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][{}]{\quad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 280 **lwarp-marvosym.sty**

§ 389 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

marvosym (*Pkg*) marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]
2 \renewcommand{\mvchr}[1]{%
3   \begin{lateximage}*[symbol #1][marvosym #1]%
4   \mvs\char#1%
5   \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9   \begin{lateximage}%
10  \mvs #1%
11  \end{lateximage}%
12 }
```


---

File 281 **lwarp-mathalpha.sty**

§ 390 Package **mathalpha**

(Emulates or patches code by MICHAEL SHARPE.)

mathalpha (*Pkg*) **mathalpha** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be not supported by MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathalpha}[2021/11/18]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbfbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfcal}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbffrak}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbfscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}
16 \end{warpMathJax}
```

---

File 282 **lwarp-mathastext.sty**

§ 391 Package **mathastext**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

mathastext (*Pkg*) **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
```

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 %   \LWR@mathjax@addgreek@l@it{}{}
7 \else
8   \ifmst@upgreek
9     \LWR@mathjax@addgreek@l@up{}{}
10  \else
11    \ifmst@frenchmath
12      \LWR@mathjax@addgreek@l@up{}{}
13    \else
14      \ifmst@italic
15 %     \LWR@mathjax@addgreek@l@it{}{}
16      \else
17        \LWR@mathjax@addgreek@l@up{}{}
18      \fi
19    \fi
20  \fi
21 \fi
22
23 \ifcase\mst@greek@select
24   \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 %   \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 283 **lwarp-mathcomp.sty**

§ 392 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

mathcomp (*Pkg*) **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}

```

```

4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}


```

File 284 **lwarp-mathdesign.sty**

§ 393 Package **mathdesign**

*(Emulates or patches code by PAUL PICHAREAU.)*

mathdesign (*Pkg*) **mathdesign** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to mathdesign inconsistency:

```
20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}
```

Integrals:

```
27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
```

Math and text mode:

```
32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}
```

Extra symbols:

```
37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}
```

---

File 285 **lwarp-mathdots.sty**

§ 394 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

mathdots (*Pkg*) **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
```

```
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originaldddot\dddot}
12 \end{warpMathJax}
```


---

File 286 **lwarp-mathfixs.sty**

§ 395 Package **mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

`mathfixs` (*Pkg*) `mathfixs` is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\frac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{} }
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}
```


---

File 287 **lwarp-mathpazo.sty**

§ 396 Package **mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

`mathpazo` (*Pkg*) `mathpazo` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}
```


---

File 288 **lwarp-mathptmx.sty**

§ 397 Package **mathptmx**

*(Emulates or patches code by WALTER SCHMIDT.)*

`mathptmx` (*Pkg*) `mathptmx` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]`

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoProcessingmathjax{mathptmx}
6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8   {\LWR@mathjax@addgreek@u@it*}{}
9   {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}
```


---

File 289 **lwarp-mathspec.sty**

§ 398 Package **mathspec**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

`mathspec` (*Pkg*) `mathspec` is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (`\` and the `"` character) are removed during MATHJAX emulation, but this also includes inside `\text`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]`

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
```

Neutralize double quotes (`"` and `\`):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8   \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10  \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12  \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15   \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17   \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19   \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24   \eu@ifbooltrue{exchangebetaforms}{
25     \CustomizeMathJax{\let\LWRorigbeta\beta}
26     \CustomizeMathJax{\let\beta\varbeta}
27     \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28   }
29   \eu@ifbooltrue{exchangeepsilonforms}{
30     \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31     \CustomizeMathJax{\let\epsilon\varepsilon}
32     \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33   }
34   \eu@ifbooltrue{exchangethetaforms}{
35     \CustomizeMathJax{\let\LWRorigtheta\theta}
36     \CustomizeMathJax{\let\theta\vartheta}
37     \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38   }
39   \eu@ifbooltrue{exchangekappaforms}{
40     \CustomizeMathJax{\let\LWRorigkappa\kappa}
41     \CustomizeMathJax{\let\kappa\varkappa}
42     \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43   }
44   \eu@ifbooltrue{exchangepiforms}{
45     \CustomizeMathJax{\let\LWRorigpi\pi}
46     \CustomizeMathJax{\let\pi\varpi}
47     \CustomizeMathJax{\let\varpi\LWRorigpi}
48   }
49   \eu@ifbooltrue{exchangerhoforms}{
50     \CustomizeMathJax{\let\LWRorigrho\rho}
51     \CustomizeMathJax{\let\rho\varrho}
52     \CustomizeMathJax{\let\varrho\LWRorigrho}
53   }
54   \eu@ifbooltrue{exchangephiforms}{
55     \CustomizeMathJax{\let\LWRorigphi\phi}
56     \CustomizeMathJax{\let\phi\varphi}
57     \CustomizeMathJax{\let\varphi\LWRorigphi}
58   }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61   \eu@ifbooltrue{exchangeThetaforms}{
62     \CustomizeMathJax{\let\LWRorigTheta\Theta}

```



```

63     \CustomizeMathJax{\let\Theta\varTheta}
64     \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65   }
66 }
67 }

```

Append new action to mathspec's `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69   {\AtBeginDocument{\LWR@mathspec@varforms}}
70   {}
71   {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

---

## File 290 **lwarp-mathtools.sty**

### § 399 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)*

`mathtools` (*Pkg*) `mathtools` is patched for use by `lwarp`. Emulation macros are provided for MATHJAX.

#### **equation numbering**

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

#### **italic correction** `mathic` is not emulated for HTML.

#### **MATHJAX** If using MATHJAX:

- Recent changes may not yet be updated in the MATHJAX extension, which is used by `lwarp`.
- `mathtools disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:
 

```

\begin{gathered}{}
[p]=1 . . .
\end{gathered}

```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]`

`2 \RequirePackage{graphicx}`

`3 \MHInternalSyntaxOn`

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```

4 \renewcommand*{\MT_showonlyrefs_true:}{%
5   \PackageWarningNoLine{lwarp}
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref,\MessageBreak
9     which \space is \space used \space by \space lwarp, \space
10    so \space showonlyrefs \space is\MessageBreak
11    forced \space off. \space\space
12    Equation \space numbers \space may \space not \space match%
13  }
14  \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

```

```

19 \MHInternalSyntaxOff

```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
36 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
44
45 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
46 \renewcommand{\DeclarePairedDelimiter}[3]{
47   \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
48 % starred:
49   \appto\LWR@customizedMathJax{\LWRbackslash}
50   \appto\LWR@customizedMathJax{%

```

```

51     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}%
52     }%
53     \appto\LWR@customizedMathJax{[2][[]]%
54     \appto\LWR@customizedMathJax{\{\}%
55     \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
56     \appto\LWR@customizedMathJax{\}\}%
57     \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
58 % not starred:
59     \appto\LWR@customizedMathJax{\LWRbackslash()}
60     \appto\LWR@customizedMathJax{%
61     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}%
62     }%
63     \appto\LWR@customizedMathJax{[2][[]]%
64     \appto\LWR@customizedMathJax{\{\}%
65     \LWR@subcustomizedmathjax{##1##2##1##3}%
66     \appto\LWR@customizedMathJax{\}\}%
67     \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
68 % user macro:
69     \appto\LWR@customizedMathJax{\LWRbackslash()}
70     \appto\LWR@customizedMathJax{%
71     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}\}%
72     \{\LWRbackslash}ifstar%
73     \LWRbackslash\macroto{name{#1}LWRsubstar%
74     \LWRbackslash\macroto{name{#1}LWRsubstar%
75     \}%
76     }%
77     \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
78 }
79 \@onlypreamble\DeclarePairedDelimiter
80
81 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
85   \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
86 % subsubstar, second opt arg
87   \appto\LWR@customizedMathJax{\LWRbackslash}%
88   \appto\LWR@customizedMathJax{%
89   \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubstar\}%
90   }%
91   \appto\LWR@customizedMathJax{[#2]}%
92   \appto\LWR@customizedMathJax{\{\LWRbackslash}left}%
93   \LWR@subcustomizedmathjax{##3##4##7}%
94   \appto\LWR@customizedMathJax{\LWRbackslash}right}%
95   \LWR@subcustomizedmathjax{##5##6}%
96   \appto\LWR@customizedMathJax{\}\}%
97   \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
98 % substar, first opt arg
99   \appto\LWR@customizedMathJax{\LWRbackslash}%
100  \appto\LWR@customizedMathJax{%
101  \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}[1][[]%
102  }%
103  \appto\LWR@customizedMathJax{%
104  \{
105  \LWRbackslash{}def\LWRbackslash{}delimsz{\#1\}
106  \LWRbackslash\macroto{name{#1}LWRsubsubstar
107  \}%
108  }%
109  \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
110 % subsubnstar, second opt arg

```

```

111 \appto\LWR@customizedMathJax{\LWRbackslash}%
112 \appto\LWR@customizedMathJax{%
113   \LWRbackslash}newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubnosta\}%
114   }%
115 \appto\LWR@customizedMathJax{[#2]}%
116 \appto\LWR@customizedMathJax{\{\LWRbackslash}delimsi}%
117 \LWR@subcustomizedmathjax{#3#4#7}%
118 \appto\LWR@customizedMathJax{\LWRbackslash}delimsi}%
119 \LWR@subcustomizedmathjax{#5#6}%
120 \appto\LWR@customizedMathJax{\}\}%
121 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
122 % subnosta, first opt arg
123 \appto\LWR@customizedMathJax{\LWRbackslash}%
124 \appto\LWR@customizedMathJax{%
125   \LWRbackslash}newcommand{\LWRbackslash\macroto{name{#1}LWRsubnosta\}[1][]%
126   }%
127 \appto\LWR@customizedMathJax{%
128   \{
129     \LWRbackslash}def\LWRbackslash}delimsi{\#1\}
130     \LWRbackslash\macroto{name{#1}LWRsubsubnosta
131     \}%
132   }%
133 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
134 % user macro:
135 \appto\LWR@customizedMathJax{\LWRbackslash}
136 \appto\LWR@customizedMathJax{%
137   \LWRbackslash}newcommand{\%
138     \LWRbackslash}\macroto{name{#1}%
139     \}%
140     \{\LWRbackslash}ifstar%
141     \LWRbackslash}\macroto{name{#1}LWRsubstar%
142     \LWRbackslash}\macroto{name{#1}LWRsubnosta%
143     \}%
144   }%
145 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
146 }
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
151
152 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
153 \renewcommand{\newgathered}[4]{%
154   \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
155   \appto\LWR@customizedMathJax{\LWRbackslash}%
156   \LWR@subcustomizedmathjax{%
157     \newenvironment{#1}{\begin{gathered}}{\end{gathered}}%
158   }%
159   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
160 }
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}

```

File 291 **lwarp-mattens.sty**

§ 400 Package **mattens**

*(Emulates or patches code by DANIE ELS.)*

`mattens` (*Pkg*) `mattens` is used as-is for SVG math, and is emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6   {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10  {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14   \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18   \let\LWRmattenscross\LWRmattensnull%
19   \let\LWRmattenovercmd\overrightarrow%
20   \let\LWRmattensundercmd\LWRmattensnull%
21   \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25   \let\LWRmattenscross\LWRmattensnull%
26   \let\LWRmattenovercmd\underrightarrow%
27   \let\LWRmattensundercmd\LWRmattensnull%
28   \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32   \let\LWRmattenscross\LWRmattensnull%
33   \let\LWRmattenovercmd\overline%
34   \let\LWRmattensundercmd\LWRmattensnull%
35   \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\bSb}{%
39   \let\LWRmattenscross\LWRmattensnull%
40   \let\LWRmattenovercmd\underline%
41   \let\LWRmattensundercmd\LWRmattensnull%
42   \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46   \let\LWRmattenscross\LWRmattensnull%
47   \let\LWRmattenovercmd\overrightarrow%
```

```

48   \let\LWRmattensundercmd\underrightarrow%
49   \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53   \let\LWRmattenscross\LWRmattensnull%
54   \let\LWRmattensovercmd\overrightarrow%
55   \let\LWRmattensundercmd\underline%
56   \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60   \let\LWRmattenscross\LWRmattensnull%
61   \let\LWRmattensovercmd\overline%
62   \let\LWRmattensundercmd\underrightarrow%
63   \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67   \let\LWRmattenscross\LWRmattensnull%
68   \let\LWRmattensovercmd\overline%
69   \let\LWRmattensundercmd\underline%
70   \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74   \let\LWRmattenscross\tilde%
75   \let\LWRmattensovercmd\overrightarrow%
76   \let\LWRmattensundercmd\underrightarrow%
77   \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81   \let\LWRmattenscross\tilde%
82   \let\LWRmattensovercmd\overline%
83   \let\LWRmattensundercmd\underline%
84   \LWRmattens%
85 }}
86 \end{warpMathJax}

```


---

File 292 **lwarp-maybemath.sty**

§ 401 Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

maybemath (*Pkg*) **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all maybemath macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1][\#1]}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}

```

---

```

6 \CustomizeMathJax{\let\maybeitrm\maybe}
7 \CustomizeMathJax{\let\maybeitsubscript\maybe}
8 \CustomizeMathJax{\let\maybeisf\maybe}
9 \CustomizeMathJax{\let\maybebmsf\maybe}
10 \end{warpMathJax}

```

---

File 293 **lwarp-mcaption.sty**

§ 402 Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

mcaption (*Pkg*) mcaption is ignored.

**for HTML output:** Discard all options for lwarp-mcaption:

```

1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}

```

---

File 294 **lwarp-mdframed.sty**

§ 403 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

mdframed (*Pkg*) mdframed is loaded with options forced to framemethod=none.

#### § 403.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

 **loading** When used, lwarp loads mdframed in HTML with framemethod=none.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since lwarp does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** theoremtitlefont is not supported, since the following text is not in braces in the mdframed source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `mdframedtitle`. Subtitles are in a `<div>` of class `mdframedsubtitle`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

## § 403.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `TikZ` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

## § 403.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7   \edef\mdf@temp{%
8     \topsep=\the\topsep\relax%
9     \partopsep=\the\partopsep\relax%
10    \parsep=\the\parsep\relax%
11  }%
12  \setlength{\topsep}{#1}%
13  \topskip\z@%
14  \partopsep\z@%
15  \parsep\z@%
16  \@nibrlistfalse%
17  \@trivlist%
18  \labelwidth\z@%
19  \leftmargin\z@%
20  \itemindent\z@%
21  \let\itemlabel\@empty%
22  \def\makeLabel##1{##1}%
23  \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\endmdf@trivlist{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument
```



#### § 403.4 Initial setup

To handle CSS and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```
32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }
```

#### § 403.5 Color and length HTML conversion

`\LWR@mdfprintcolor`

`{\mdfcolorkey}`

Given the `mdframed` key, print the color.

```
38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

`\LWR@mdfprintlength`

`{\mdflengthkey}`

Given the `mdframed` key, print the length.

```
42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

#### § 403.6 Environment encapsulation

`\LWR@mdframedstart`

Actions before an `mdframe` starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and endcode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60   box-shadow:
61     \LWR@mdfprintlength{shadowsize}
62     \LWR@mdfprintlength{shadowsize}
63     \LWR@mdfprintlength{shadowsize}
64     \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \let\hspace\LWR@print@hspace%
71 \renewcommand*\rule{\LWR@print@rule}
72 \let\textmacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend

Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*\LWR@mdframedend{%
77 \LWR@traceinfo{LWR@mdframedend start}%
```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }
```

### § 403.7 Mdfamed environment

```
83 \renewenvironment{mdframed}[1][\LWR@mdthisenv]{%
84   \color@begingroup%
85   \mdfsetup{userdefinedwidth=\linewidth,#1}%
86   \mdf@startcode%
87   \mdf@preenvsetting%
88   \ifdefempty{\mdf@firstframetitle}{%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@firstframetitle%
91      }%
92   \ifvmode\nointerlineskip\fi%
```

```

93     \ifdefempty{\mdf@frametitle}{}%
94     {\mdfframedtitleenv{\mdf@frametitle}%
95 %     \mdf@@frametitle@use%
96     }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 % \mdf@endinnercode%
110 % \endmdf@lrbox%
111 % \ifdefempty{\mdf@frametitle}{}%
112 %     {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 % \detected@mdf@put@frame
114 % }%
115 \else%
116 \def\mdf@reserveda{%
117 % \mdf@endinnercode%
118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}%
120 %     {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame%
122 % \mdf@footnoteoutput%
123 % }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 403.8 Titles and subtitles

\mdfframedtitleenv

{<title>}

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}[%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}

```

140 ; \LWR@orignewline

Convert and print the title rule:

```
141 \ifbool{mdf@frametitulerule}{%
142   border-bottom:
143   \LWR@mdfprintlength{frametitulerulewidth}
144   solid
145   \LWR@mdfprintcolor{frametitulerulecolor}
146   ; \LWR@orignewline
147 }{%
```

Finish the custom style and the opening <div> tag:

```
148 ]{mdframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon

{<sub — or — subsub>} [<options>] {<title>}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162   border-top:
163   \LWR@mdfprintlength{#1titleabovelinewidth}
164   solid
165   \LWR@mdfprintcolor{#1titleabovelinecolor}
166   ; \LWR@orignewline
167 }{%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169   border-bottom:
170   \LWR@mdfprintlength{#1titlebelowlinewidth}
171   solid
172   \LWR@mdfprintcolor{#1titlebelowlinecolor}
173   ; \LWR@orignewline
174 }{%
```

Finish the custom style and the opening <div> tag:

175 ]{mdframed#1title}%

Perform the original subtitle action:

176 \IfNoValueTF{#2}

177 {\@nameuse{LWR@origmdf#1title}\cuse{mdf@#1titlefont}\LWR@textcurrentfont{#3}}}%

178 {\@nameuse{LWR@origmdf#1title}[#2]\cuse{mdf@#1titlefont}\LWR@textcurrentfont{#3}}}%

Close the <div>:

179 \end{BlockClass}%

180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%

181 }

\LWR@mdfsubtitle            [*<options>*] {*<title>*}

182 \newcommand\*\LWR@mdfsubtitle{%

183 \LWR@mdfsubtitlecommon{sub}%

184 }

185 \let\mdfsubtitle\LWR@mdfsubtitle

\LWR@mdfsubsubtitle        [*<options>*] {*<title>*}

186 \newcommand\*\LWR@mdfsubsubtitle{%

187 \LWR@mdfsubtitlecommon{subsub}%

188 }

189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

### § 403.9 New environments

\LWR@mdthisenv            Stores the environment of the frame about to be created:

190 \newcommand\*\LWR@mdthisenv{mdframed}

\newmdenv                 [*<options>*] {*<env-name>*}

Modified from the original to remember the environment.

191 \renewrobustcmd\*\newmdenv[2][]{%

192 \newenvironment{#2}%

193 {%

194 \mdfsetup{#1}%

195 \renewcommand\*\LWR@mdthisenv{md#2}%

196 \begin{mdframed}%

197 }

198 {\end{mdframed}}%

199 }

\surroundwithmdframed    [*<options>*] {*<environment>*}

Modified from the original to remember the environment.

200 \renewrobustcmd\*\surroundwithmdframed[2][]{%

201 \BeforeBeginEnvironment{#2}{%

202 \renewcommand\*\LWR@mdthisenv{md#2}%

203 \begin{mdframed}[#1]}%

204 \AfterEndEnvironment{#2}{\end{mdframed}}%

205 }

\mdtheorem                [*<mdframed-options>*] {*<envname>*} [*<numberedlike>*] {*<caption>*} [*<within>*]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208   {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209   {%
210     \IfNoValueTF {#3}%
211     {%#3 not given -- number relationship
212       \IfNoValueTF {#5}%
213       {%#3+#5 not given
214         \@definecounter{#2}%
215         \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216         \newenvironment{#2}[1][1][1]{%
217           \refstepcounter{#2}%
218           \ifstrempy{##1}%
219             {\let\@temptitle\relax}%
220             {%
221               \def\@temptitle{\mdf@theoremseparator%
222                 \mdf@theoremspace%
223                 \mdf@theoremtitlefont%
224                 \LWR@textcurrentfont{##1}}% lwarp
225               \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226             }%
227             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228               \@temptitle}]]%
229             {\end{mdframed}}%
230           \newenvironment{#2*}[1][1][1]{%
231             \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232             \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
233             {\end{mdframed}}%
234           }%
235           {%#5 given -- reset counter
236             \@definecounter{#2}\newctr{#2}[#5]%
237             \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238             \expandafter\xdef\csname the#2\endcsname{%
239               \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240               \@thmcounter{#2}}%
241             \newenvironment{#2}[1][1][1]{%
242               \refstepcounter{#2}%
243               \ifstrempy{##1}%
244                 {\let\@temptitle\relax}%
245                 {%
246                   \def\@temptitle{\mdf@theoremseparator%
247                     \mdf@theoremspace%
248                     \mdf@theoremtitlefont%
249                     \LWR@textcurrentfont{##1}}% lwarp
250                   \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251                 }
252                 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253                   \@temptitle}]]%
254                 {\end{mdframed}}%
255               \newenvironment{#2*}[1][1][1]{%
256                 \ifstrempy{##1}%
257                 {\let\@temptitle\relax}%
258                 {%
259                   \def\@temptitle{\mdf@theoremseparator%
260                     \mdf@theoremspace%
261                     \mdf@theoremtitlefont%
262                     \LWR@textcurrentfont{##1}}% lwarp
263                   \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264                 }%
265                 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%

```

```

266         {\end{mdframed}}}%
267     }%
268 }%
269 {%#3 given -- number relationship
270     \global\@namedef{the#2}{\@nameuse{the#3}}%
271     \newenvironment{#2}[1][{%
272         \refstepcounter{#3}%
273         \ifstrempy{##1}%
274             {\let\@temptitle\relax}%
275             {%
276                 \def\@temptitle{\mdf@theoremseparator%
277                     \mdf@theoremspace%
278                     \mdf@theoremtitlefont%
279                     \LWR@textcurrentfont{##1}}% lwarp
280                 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281             }
282     \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283         \@temptitle}]]%
284         {\end{mdframed}}}%
285     \newenvironment{#2*}[1][{%
286         \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ #1}}%
287         \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288         {\end{mdframed}}}%
289     }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv

[<1: *mdframed-options*>] [<2: *envname*>] [<3: *numberedlike*>] [<4: *caption*>]  
 [<5: *within*>]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{0}{ m o m o }{%
295     \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296         {\newtheorem{#2}{#4}}%
297         {%
298             \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299             \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300         }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv}{md#2}}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

---

File 295 **lwarp-mdwmath.sty**

§ 404 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

mdwmath (*Pkg*) mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LRmdwmathsqrtsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LRmdwmathsqrtsqrt\LRmdwmathsqrts}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblort{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dblortand{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}

```

---

File 296 **lwarp-media9.sty**

§ 405 Package **media9**

media9 (*Pkg*) **media9** is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 `<audio>` and `<video>` objects are created for .mp3 and .mp4 files.

HTML5 `<embed>` objects are created for http and ftp links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so & is



not converted to catcode 12, and will not work in a URL with `media9`. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

```
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

\addmediapath

{<path>}

Supported.

```
5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath}[1]{\appto\LWR@medianine@path{#{1}}}
```

The options and poster text are reused in several places.

```
8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}
```

Each addressource can generate a multimedia object.

```
10 \define@key{LWR@medianine}{addressource}{%
11   \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12     {\LWR@medianine@postertext}
13     {#1}
14 }
```

Each flashvars source can generate a multimedia object.

```
15 \newcommand*\LWR@medianine@flashvarsb}[1]{%
16   \IfBeginWith{#1}{source=}{%
17     \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18     \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19     {\LWR@medianine@postertext}%
20     {\LWR@tempone}%
21   }{%
22   \IfBeginWith{#1}{src=}{%
23     \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24     \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25     {\LWR@medianine@postertext}%
26     {\LWR@tempone}%
27   }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >\SplitList{&} m }{%
31   \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{LWR@medianine}{flashvars}{%
35   \LWR@medianine@flashvars{#1}%
36 }
```

\includemedia

[<options>] {<poster text>} {<file or url>}

```

37 \newcommand*\LWR@includemediab}[3][[]]{%
38   \let\input@path\LWR@medianine@path%
39   \renewcommand*\LWR@medianine@options}{#1}%
40   \renewcommand*\LWR@medianine@postertext}{#2}%
41   \setkeys*LWR@medianine}{#1}%
42   \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43   \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44   \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45   \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46   }}}%
47   \endgroup%
48 }
49
50 \newrobustcmd*\includemedia){%
51   \begingroup%
52   \LWR@linkmediacatcodes%
53   \LWR@includemediab%
54 }

```

\mediabutton

[*<options>*] {*<text>*}

Ignored.

```
55 \newcommand*\mediabutton}[2][[]]{}
```

---

File 297 **lwarp-memhfixc.sty**

§ 406 Package **memhfixc**

memhfixc (*Pkg*) memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 298 **lwarp-menukeys.sty**

§ 407 Package **menukeys**

(*Emulates or patches code by* TOBIAS WEH.)

menukeys (*Pkg*) menukeys is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a lateximage whose alt text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3   {\@nameuse{tw@style@#4@pre}}
4   {%
5     \begin{lateximage}*[\detokenize{##2}]%
6     \@nameuse{tw@style@#4@pre}%
7   }
8   {}

```

```

9   {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12   {\@nameuse{tw@style@#4@post}}
13   {%
14     \@nameuse{tw@style@#4@post}%
15     \end{lateximage}%
16   }
17   {}
18   {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 299 **lwarp-metalogo.sty**

§ 408 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

metalogo (*Pkg*) metalogo is used in print mode, and emulated in HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*{\LWR@HTML@setlogokern}[2]{}
3 \newcommand*{\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*{\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*{\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*{\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*{\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 300 **lwarp-metalogox.sty**

§ 409 Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

metalogox (*Pkg*) metalogox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```

2 \AtBeginDocument{
3   \let\LWR@metalogox@currentformatting\LWR@formatting
4   \renewcommand*\LWR@formatting}{print}%
5   \autoadjustlogos*
6   \let\LWR@formatting\LWR@metalogox@currentformatting
7 }

```

File 301 **lwarp-mhchem.sty**

§ 410 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

mhchem (*Pkg*) mhchem is patched for use by lwarp.

**without MATHJAX** Without MATHJAX, mhchem expressions are converted to SVG math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension** For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$$\text{\ce{C6H5-CHO}}$$

To force the use of SVG math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:


```

\displaymathother
\[\ce{...}] ... \ce{...}
\displaymathnormal

```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into SVG math images.

 **nested math** When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

<code>\ce{NaOH(aq,\infty)}</code>	% old
<code>\ce{NaOH(aq,\infty)}</code>	% new
<code>\ce{Fe(CN)_{\frac{6}{2}}}</code>	% old
<code>\ce{Fe(CN)_{\frac{6}{2}}}</code>	% new
<code>\ce{NO_x}</code>	% old
<code>\ce{NO_x}</code>	% new
<code>\ce{NO_x}</code>	% old
<code>\ce{NO_x}</code>	% new
<code>\ce{\\$cis\{-}[PtCl2(NH3)2]}</code>	% old
<code>\ce{\mathit{cis}\{-}[PtCl2(NH3)2]}</code>	% new

**for HTML output:** 1\LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of `\ce`:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new `\ce` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4   \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5   \ifbool{\LWR@xfakebold}%
6     {\def\LWR@tempone{Y}}%
7     {\def\LWR@tempone{N}}%
8   \begin{lateximage}%
9     *%
10    [%
11      \textbackslash{}%
12      ce%
13      \{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
14    ]%
15    *%
16    [%
17      FM\LWR@f@family%
18      SR\LWR@f@series%
19      SH\LWR@f@shape%
20      SHC\LWR@f@shapecaps%
21      CL\LWR@tempcolor%
22      FB\LWR@tempone% xfakebold
23    ]%
24  \LWR@setcurrentfont%
25  \LWR@mhchem@origce{#1}%
26  \end{lateximage}%
27  \endgroup%
28  \addtocounter{\LWR@mhchem@cedepth}{-1}%
29 }
```

Only set math shift if outer depth:

```
30 \newcounter{\LWR@mhchem@cedepth}
31 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new `\ce`. Sets math shift then continues.

```
32 \renewcommand{\ce}{%
33   \begingroup%
34   \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
35     \catcode'\$=3% math shift
36   }{%
37     \addtocounter{\LWR@mhchem@cedepth}{1}%
38     \LWR@mhchem@HTML@ce%
39 }
```

The original definition of `\cesplit`:

```
40 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit
```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

41 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
42 {%
43   \LWR@findcurrenttextcolor% sets \LWR@tempcolor
44   \ifbool{\LWR@xfakebold}%
45     {\def\LWR@tempone{Y}}%
46     {\def\LWR@tempone{N}}%
47   \begin{lateximage}%
48     *%
49     [%
50       \textbackslash{%
51         cesplit%
52         \{\LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}%
53       ]%
54     *%
55     [%
56       FM\LWR@f@family%
57       SR\LWR@f@series%
58       SH\LWR@f@shape%
59       SHC\LWR@f@shapecaps%
60       CL\LWR@tempcolor%
61       FB\LWR@tempone% xfakebold
62     ]%
63   \LWR@setcurrentfont%
64   \LWR@mhchem@origcesplit{#1}{#2}%
65   \end{lateximage}%
66   \endgroup%
67 }

```

Only set math shift if outer depth:

```

68 \newcounter{LWR@mhchem@cesplitdepth}
69 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

70 \renewcommand{\cesplit}{%
71   \begingroup%
72   \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
73     \catcode'\$=3% math shift
74   }{%
75     \addtocounter{LWR@mhchem@cesplitdepth}{1}%
76     \LWR@mhchem@HTML@cesplit%
77 }

```

Resore originals inside a `lateximage`:

```

78 \appto\LWR@restoreorigformatting{%
79 \LetLtxMacro\ce\LWR@mhchem@origce%
80 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
81 }
82
83 \begin{warpMathJax}
84 \CustomizeMathJax{\require{mhchem}}
85 \end{warpMathJax}

```

---

File 302 **lwarp-microtype.sty**

§ 411 Package **microtype**

*(Emulates or patches code by R SCHLICHT.)*

microtype (*Pkg*) microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-microtype:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

---

File 303 **lwarp-midfloat.sty**

§ 412 Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

midfloat (*Pkg*) midfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

---

```

2 \newenvironment{strip}[1][{}]{}
3 \newskip\stripsep

```

---

File 304 **lwarp-midpage.sty**

§ 413 Package **midpage**

midpage (*Pkg*) midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```

2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4   \LWR@print@mbx{margin-top:6ex} ; \LWR@print@mbx{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}

```

---

File 305 **lwarp-minibox.sty**

§ 414 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

minibox (*Pkg*) minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```

2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][{}]{%
4   \LWR@stoppars%
5   \group_begin:
6   \keys_set:nn {minibox} {#1}
7   \bool_if:NTF \l_minibox_frame_bool
8   {
9     \setlength\fbxrule{\l_minibox_rule_dim}
10    \setlength\fbxsep{\l_minibox_pad_dim}
11    \fbxBlock{%
12      \begin{tabular}[\l_minibox_tabular_valign_tl]%
13        {\l_minibox_tabular_preamble_tl}
14        {#2}
15      \end{tabular}
16    }%
17  }
18  {
19    \begin{BlockClass}[display:inline-block]{minibox}
20    \begin{tabular}[\l_minibox_tabular_valign_tl]%
21      {\l_minibox_tabular_preamble_tl}
22      {#2}
23    \end{tabular}
24    \end{BlockClass}

```



```

25   }
26   \group_end:
27   \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 306 **lwarp-minitoc.sty**

§ 415 Package **minitoc**

`minitoc` (*Pkg*) `minitoc` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

`mtcoff` disables `minitoc`.

```
2 \usepackage{mtcoff}
```


---

File 307 **lwarp-minted.sty**

§ 416 Package **minted**

(*Emulates or patches code by GEOFFREY M. POORE.*)

`minted` (*Pkg*) `minted` is patched for use by `lwarp`.

 **limitations** `mathescape` and `highlightlines` don't work. Line numbers on the right will not be aligned. Due to *pdfotext*, extra spaces may appear in broken lines if other formatting is included.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minted}[2022/12/12]

```

2 \renewcommand{\setminted}[2][]{%
3   \ifthenelse{\equal{#1}{}}{%
4     {\setkeys{minted@opt@g}{%
5       #2,
6       mathescape=false,breaklines,texcomments=false,highlightlines={}% lwarp
7     }}%
8     {\minted@configlang{#1}%
9       \setkeys{minted@opt@lang}{%
10        #2,
11        mathescape=false,breaklines,texcomments=false,highlightlines={}% lwarp
12      }}}
13
14 \renewcommand{\setmintedinline}[2][]{%
15   \ifthenelse{\equal{#1}{}}{%
16     {\setkeys{minted@opt@gi}{%
17       #2,
18       mathescape=false,breaklines,texcomments=false,highlightlines={}% lwarp
19     }}%
20     {\minted@configlang{#1}%
21       \setkeys{minted@opt@lang@i}{%

```

```
22     #2,
23     mathescape=false,breaklines, texcomments=false,highlightlines={}% lwarp
24   }}}
25
26 \xpatchcmd{\RobustMintInlineProcess}
27   {\setkeys{minted@opt@cmd}{#1}}
28   {%
29     \setkeys{minted@opt@cmd}{%
30       #1,%
31       mathescape=false,breaklines, texcomments=false,highlightlines={}%
32     }%
33   }
34   {}
35   {\LWR@patcherror{minted}{minted}}
36
37 \xpatchcmd{\RobustMintProcess}
38   {\setkeys{minted@opt@cmd}{#1}}
39   {%
40     \setkeys{minted@opt@cmd}{%
41       #1,%
42       mathescape=false,breaklines, texcomments=false,highlightlines={}%
43     }%
44   }
45   {}
46   {\LWR@patcherror{minted}{minted}}
47
48 \xpatchcmd{\minted}
49   {\setkeys{minted@opt@cmd}{#1}}
50   {%
51     \setkeys{minted@opt@cmd}{%
52       #1,%
53       mathescape=false,breaklines, texcomments=false,highlightlines={}%
54     }%
55   }
56   {}
57   {\LWR@patcherror{minted}{minted}}
58
59 \xpatchcmd{\inputminted}
60   {\setkeys{minted@opt@cmd}{#1}}
61   {\setkeys{minted@opt@cmd}{%
62     #1,%
63     mathescape=false,breaklines, texcomments=false,highlightlines={}%
64   }%
65   }
66   {}
67   {\LWR@patcherror{minted}{inputminted}}
68
69
70
71 %\xpatchcmd{\mintinline}
72 %  {\setkeys{minted@opt@cmd}{#1}}
73 %  {\setkeys{minted@opt@cmd}{%
74 %    #1,%
75 %    mathescape=false,breaklines, texcomments=false,highlightlines={}%
76 %  }%
77 %  }
78 %  {}
79 %  {\LWR@patcherror{minted}{mintinline}}
80
81 %\xpatchcmd{\mint}
```

```

82 %   {\setkeys{minted@opt@cmd}{#1}}
83 %   {%
84 %       \setkeys{minted@opt@cmd}{%
85 %           #1,%
86 %           mathescape=false,breaklines,texcomments=false,highlightlines={}%
87 %       }%
88 %   }
89 %   {}
90 %   {\LWR@patcherror{minted}{mint}}
91
92 \renewenvironment{minted@snugshade*}[1]%
93 {%
94     \colorlet{shadecolor}{#1}%
95     \begin{snugshade*}%
96 }
97 {%
98     \end{snugshade*}%
99 }

```


---

File 308 **lwarp-mismath.sty**

§ 417 Package **mismath**

*(Emulates or patches code by ANTOINE MISSIER.)*

`mismath (Pkg)` mismath is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.

`\MathUp`, `\MathIt`, `\MathNumbers`, and `\MathNormal` are ignored in MATHJAX.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.7. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mismath}[2023/02/24]`

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3   \RenewEnviron{mathcols}{%
4     \preto\BODY{\begin{aligned}\displaystyle}
5     \appto\BODY{\end{aligned}}
6     \expandafter\(\BODY\)
7   }

```

```
8}% mathjax
```

For svg math. The lateximage restores the original definition of the math environment.

```
9{% svg
10  \renewenvironment{mathcols}{
11    \begin{lateximage}
12    \begin{math}
13    \begin{aligned}\displaystyle
14  }{
15    \end{aligned}%
16    \end{math}
17    \end{lateximage}
18  }
19}% svg
20
21 \renewcommand{\changecol}{
22   \end{aligned} \quad
23   \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\let\mathbfsfit\mathbfit}% not sans
33 \CustomizeMathJax{\let\tensor\mathbfsfit}
34
35 \CustomizeMathJax{\newcommand{\boldvect}{}{}}
36 \CustomizeMathJax{\newcommand{\arrowvect}{}{}}
37 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
38 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
39 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
40 \CustomizeMathJax{%
41   \newcommand{\norm}[1]{\left\| \left\| \left\| \right\| \right\| \right\|}
42 }
43 \CustomizeMathJax{\newcommand{\di}{\mathop{!}\mathrm{d}}}
44
45 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
46 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
47 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
48 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
49
50 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
51 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
52 \CustomizeMathJax{\DeclareMathOperator{\codim}{codim}}
53 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
54 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
55 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
56 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
57 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
58 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
59
60 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
61 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
62 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
63 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
```

```

64 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
65 \CustomizeMathJax{\let\oldIm\Im}
66 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
67 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
68 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
69
70 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
71 \CustomizeMathJax{\let\oldRe\Re}
72 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
73 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
74 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
75 \CustomizeMathJax{\DeclareMathOperator{\sinc}{sinc}}
76 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
77 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
78 \CustomizeMathJax{\DeclareMathOperator{\var}{var}}
79 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
80 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
81
82 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
83 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
84 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
85 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
86 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
87 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
88 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
89 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
90 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
91
92 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
93 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
94 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
95
96 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
97 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
98 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
99 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
100 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
101 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
102 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
103
104 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
105 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
106 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
107 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
108 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
109 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
110 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
111 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
112 \CustomizeMathJax{\newcommand{\LWReqdefstar}{\stackrel{\Delta}{=}}}
113 \CustomizeMathJax{\newcommand{\LWReqdefnostar}{\stackrel{\mathrm{def}}{=}}}
114 \CustomizeMathJax{\newcommand{\eqdef}{\ifstar\LWReqdefstar\LWReqdefnostar}}
115 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
116 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
117
118 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
119 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
120 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
121 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1 \right)^{\!#2}}}}
122 \CustomizeMathJax{\newcommand{\abs}[1]{\left\vert\!#1\right\vert}}
123 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}

```

```

124
125 \CustomizeMathJax{\newenvironment{system}[1][L]%
126   {\left\{\begin{array}{@{.15em}#1@{}}
127   {\end{array}\right.}
128 }
129
130 \CustomizeMathJax{\newenvironment{spmatrix}
131   {\left(\begin{smallmatrix}
132   {\end{smallmatrix}\right)}
133 }
134
135 \CustomizeMathJax{%
136   \newenvironment{mathcols}
137     {\begin{aligned}\displaystyle}
138     {\end{aligned}}
139 }
140 \CustomizeMathJax{\newcommand{\changeacol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

141 \AtBeginDocument{
142 \ifdef{\itpi}{
143   \CustomizeMathJax{\let\itpi\pi}
144 }{ }
145 \ifdefstring{\boldvectcommand}{\mathbf}{
146   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
147 }{
148   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
149 }
150 \ifbool{arrowvect}{
151   \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
152 }{
153   \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
154 }
155 \ifdefstring{\probastyle}{\mathbb}{
156   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
157 }{
158   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
159 }
160 \ifdefstring{\mathset}{\mathbb}{
161   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
162 }{
163   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
164 }
165 }
166 \end{warpMathJax}

```

---

File 309 **lwarp-mleftright.sty**

§ 418 Package **mleftright**

(Emulates or patches code by HEIKO OBERDIEK.)

mleftright (*Pkg*) **mleftright** is used as-is, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrighthrestore}{}}
7 \end{warpMathJax}

```

---

File 310 **lwarp-morefloats.sty**

§ 419 Package **morefloats**

morefloats (*Pkg*) morefloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

File 311 **lwarp-moreverb.sty**

§ 420 Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

moreverb (*Pkg*) moreverb is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatimtab}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatimtab}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatiminput@verbatiminput
12
13 \renewcommand{\@verbatiminput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatiminput[#1][#2]%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage

```

```

31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][[]]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

---

File 312 **lwarp-movie15.sty**

§ 421 Package **movie15**

`movie15 (Pkg)` `movie15` is emualted.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.



Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovieb}[4][[]]{%
11   \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12   \setkeys{LWR@moviefifteen}{#1}%
13   \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie){%
17   \beginngroup%
18   \LWR@linkmediacatcodes%
19   \LWR@includemovieb%
20 }
21
22
23 \newcommand*\movieref}[3][[]]{}
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][[]]{}

```

---

File 313 **lwarp-mparhack.sty**

§ 422 Package **mparhack**

`mparhack (Pkg)` `mparhack` is ignored.

**for HTML output:** Discard all options for `lwarp-mparhack`:

```

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```

---

File 314 **lwarp-multibib.sty**

§ 423 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

multibib (*Pkg*) multibib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```
2 \xpatchcmd{\newcites}
3   {{\@suffix}}
4   {{\@suffix_html}}
5   {}
6   {\LWR@patcherror{multibib}{newcites}}
```

---

File 315 **lwarp-multicap.sty**

§ 424 Package **multicap**

multicap (*Pkg*) multicap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}
```

---

File 316 **lwarp-multicol.sty**

§ 425 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

multicol (*Pkg*) multicol is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]

Multicolns are converted into a 1–3 column display, browser-supported.

The optional multicolns heading is placed inside a <div> of class multicolnsheading.

The content is placed inside a <div> of class multicolns.

Env multicolns

```
* {\langle numcols \rangle} [\langle heading \rangle]
2 \NewDocumentEnvironment{multicolns}{s m o}
```

HTML <div> class to contain everything:

```
3 {
4   \LWR@forcenewpage
5   \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
6   \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7   \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8   \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*\columnbreak{}
12 \newcommand*\newcolumn{}
13 \newcommand*\RLmulticolcolumns{}
14 \newcommand*\LRmulticolcolumns{}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*\columnseprulecolor{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m m}{%
30   \IfValueTF{#2}{#2}{#3}%
31 }
```

---

File 317 **lwarp-multicolrule.sty**

§ 426 Package **multicolrule**

multicolrule (*Pkg*) multicolrule is ignored.

**for HTML output:**

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

File 318 **lwarp-multimedia.sty**

§ 427 Package **multimedia**

*multimedia (Pkg)* multimedia is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{lwarp-common-multimedia}

3

4 \LetLtxMacro\movie\LWR@multimedia

5 \LetLtxMacro\sound\LWR@multimedia

6

7 \newcommand{\hyperlinkmovie}[3][]{}

8

9 \newcommand{\hyperlinksound}[3][]{}

10

```
11 \newcommand{\hyperlinkmute}
```

---

### File 319 **lwarp-multiobjective.sty**

#### § 428 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

`multiobjective` (*Pkg*) `multiobjective` is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13   \mathchoice%
14     {\displaystyle\boldsymbol{#1}}%
15     {\textstyle\boldsymbol{#1}}%
16     {\scriptstyle\boldsymbol{#1}}%
17     {\scriptscriptstyle\boldsymbol{#1}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21   \mathchoice%
22     {\displaystyle\mathcal{#1}}%
23     {\textstyle\mathcal{#1}}%
24     {\scriptstyle\mathcal{#1}}%
25     {\scriptscriptstyle\mathcal{#1}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\mathrm{arg}}\!,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\!,\min}
29 }}
30 \end{warpMathJax}
```

### File 320 **lwarp-multirow.sty**

#### § 429 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`multirow` (*Pkg*) `multirow` is emulated during HTML output, and used as-is while inside a `lateximage`.

- `vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

**multirow cells**

- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

**colored cells**

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

**with `\multicolumn`**

⚠ `\multicolumn & \multirow`

- See section 429.2 for `\multicolumnrow`.

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ **skipped cells**

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ **empty cells**

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ **MathJax**

- `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

In a `lateximage`, the print versions are restored.

See section 75.24 for the print-mode versions.

**for HTML output:**

Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
```

```
2 \LWR@ProvidesPackagePass{multirow}[2021/03/15]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}
```

§ 429.1 **Multirow**`\LWR@multirow@par``\par inside a \multirow.`

```

4 \newcommand*{\LWR@multirow@par}{%
5   \LWR@htmltag{br /}%
6 }%

```

`\multirow` [*1: vpos*] [*2: numRows*] [*3: bigstruts*] [*4: width*] [*5: vmove*] [*6: text*]

```

7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
8 {%
9   \LWR@traceinfo{\LWR@HTML@multirow #1 #2 #4}%

```

```
10   \booltrue{\LWR@usedmultirow}%

```

```
11   \LWR@maybeewtablerow%
12   \LWR@tabularleftedge%

```

Print the start of a new table data cell:

```
13   \LWR@htmltag{%
14     td rowspan=\textquotedbl#2\textquotedbl %

```

A class adds the column spec and the rule:

```
15     class=\textquotedbl{}td%

```

Append this column's spec:

```
16     \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%

```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag. Also add the vertical bar class.

```

17     \LWR@addcmidruletrim%
18     \LWR@addleftmostbartag%
19     \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
20     \textquotedbl%

```

```
21     \LWR@tdstartstyles%

```

The vertical alignment, if given:

```

22     \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:middle}}{%
23     \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:bottom}}{%
24     \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:top}}{%

```

The left/right border, if given:

```

25     \ifdefvoid{\LWR@multirowborder}{}%
26     \LWR@tdaddstyle%
27     \LWR@print@mbbox{border-\LWR@multirowborder:} 2px dotted black ; %
28     \LWR@print@mbbox{padding-\LWR@multirowborder:} 2px%
29     }%

```

Additional style elements:

```
30     \LWR@addcmidrulewidth%
31     \LWR@addcdashline%
32     \LWR@addtabularrulecolors%
33     \LWR@tdendstyles%
34 }%
```

The column's < spec:

```
35 \LWR@getexparray{LWR@colbeforesexpec}{\arabic{LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
36 \begingroup%
37   \LetLtxMacro{\}{\LWR@endofline}%
38   \booltrue{LWR@in@multirow@par}%
39   #6%
40 \endgroup%
41 \LWR@stoppars%
42 \boolfalse{LWR@intabularmetadata}%
43 \renewcommand{\LWR@multirowborder}{}%
44 \LWR@traceinfo{LWR@HTML@multirow done}%
45 }%
46
47 \LWR@formatted{multirow}
```

## § 429.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```
48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
51 \booltrue{LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
52 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}
```



Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.)

```
53 \LetLtxMacro{\}\{LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
55 \LetLtxMacro{\}\{LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
56 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
58 \booltrue{LWR@skipatbang}%
59 }
60
61 \LWR@expandableformatted{multicolumnrow}
62
63 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
66 \CustomizeMathJax{\newcommand{LWRsubmultirow}[2][]{#2}}
67 \CustomizeMathJax{\newcommand{LWRmultirow}[2][]{LWRsubmultirow}}
68 \CustomizeMathJax{\newcommand{multirow}[2][]{LWRmultirow}}
69 %
70 \CustomizeMathJax{\newcommand{mrowcell}{}}
71 \CustomizeMathJax{\newcommand{mcolrowcell}{}}
72 \CustomizeMathJax{\newcommand{STneed}[1]{}}
73 \end{warpMathJax}
```

---

File 321 **lwarp-multitoc.sty**

§ 430 Package **multitoc**

`multitoc (Pkg)` multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

---

File 322 **lwarp-musicography.sty**

§ 431 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

musicography (*Pkg*) musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}

```

```

50
51 \NewDocumentCommand{\LWR@HTML@meterC}{*}{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{*}{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{*}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{*}{\HTMLUnicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][*]{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83   {% ALT text for copy/paste
84     \LetLtxMacro\noFig\LWR@null@noFig%
85     \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86     \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87     \LetLtxMacro\musFlat\LWR@HTML@musFlat%
88     \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89     \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90     {#1}% braces here because \noFig uses []
91   ]%
92 ]*%
93   \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}      {}{\HTMLUnicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat} {}{\HTMLUnicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}     {}{\HTMLUnicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp} {}{\HTMLUnicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}   {}{\HTMLUnicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}

```

```

110
111 \NewDocumentCommand{\LWR@HTML@musWhole}      {}{\HTMLUnicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}       {}{\HTMLUnicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}    {}{\HTMLUnicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}     {}{\HTMLUnicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}  {}{\HTMLUnicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
128   {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
130   {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
132   {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
134   {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
136   {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
138   {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
140   {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

File 323 **lwarp-mwe.sty**

§ 432 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

*mwe (Pkg)* **mwe** is used as-is, but a warning is issued to copy the images to the local directory.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3   \PackageWarningNoLine{lwarp}{%
4     For package mwe, copy any mwe images to be used for\MessageBreak
5     HTML, such as PNG or JPG, to the document's base\MessageBreak
6     directory. Neither a subdirectory nor the mwe\MessageBreak
7     directory will work, due to the TeX file search\MessageBreak
8     algorithm%

```

```

9     }%
10 }%

```

---

File 324 **lwarp-nameauth.sty**

§ 433 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

nameauth (*Pkg*) nameauth is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

\@nameauth@Hook (*Hook*) lwarp formatting is inserted.

[nameauth]

```

2 \renewcommand*\@nameauth@Hook[1]
3 {%
4   \if@nameauth@Lock
5     \@nameauth@InHooktrue%
6     \protected@edef\test{#1}%
7     \expandafter\@nameauth@TestDot\expandafter{\test}%
8     \if@nameauth@InAKA
9       \if@nameauth@AlwaysFormat
10        \@nameauth@FirstFormattrue%
11      \else
12        \unless\if@nameauth@AKAFormat
13          \@nameauth@FirstFormatfalse\fi
14      \fi
15      \if@nameauth@MainFormat
16        \if@nameauth@FirstFormat
17          \bgroup\NamesFormat{%
18            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
19          }\egroup%
20        \else
21          \bgroup\MainNameHook{%
22            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
23          }\egroup%
24        \fi
25      \else
26        \if@nameauth@FirstFormat
27          \bgroup\FrontNamesFormat{%
28            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
29          }\egroup%
30        \else
31          \bgroup\FrontNameHook{%
32            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
33          }\egroup%
34        \fi
35      \fi
36    \else
37      \if@nameauth@AlwaysFormat
38        \@nameauth@FirstFormattrue%
39      \fi
40      \if@nameauth@MainFormat
41        \if@nameauth@FirstFormat
42          \bgroup\NamesFormat{%
43            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp

```

```

44     }\egroup%
45     \else
46     \bgroup\MainNameHook{%
47     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
48     }\egroup%
49     \fi
50     \else
51     \if@nameauth@FirstFormat
52     \bgroup\FrontNamesFormat{%
53     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
54     }\egroup%
55     \else
56     \bgroup\FrontNameHook{%
57     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
58     }\egroup%
59     \fi
60     \fi
61     \fi
62     \@nameauth@FirstFormatfalse%
63     \@nameauth@InHookfalse%
64     \fi
65 }

```

---

File 325 **lwarp-nameref.sty**

§ 434 Package **nameref**

nameref (*Pkg*) **nameref** is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-nameref:

```

1 \PackageInfo{lwarp}{%
2 Using the lwarp HTML version of package ‘nameref’,\MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch lwarp’s version of ‘nameref’.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 326 **lwarp-natbib.sty**

§ 435 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

natbib (*Pkg*) **natbib** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{< >}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6   \renewcommand{\NAT@open}{\textless}
7   \renewcommand{\NAT@close}{\textgreater}
8 }{ }
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

Synchronize the autopage labels:

```

17 \xpretocmd{\NAT@reset@parser}
18   {\LWR@newautopagelabel{page}}%
19   {}
20   {\LWR@patcherror{natbib}{NAT@reset@parser}}

```

---

File 327 **lwarp-nccfancyhdr.sty**

§ 436 Package **nccfancyhdr**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccfancyhdr (*Pkg*) nccfancyhdr is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*{\headrulewidth}{}
3 \newcommand*{\footrulewidth}{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*{\headrule}{}
7 \newcommand*{\footrule}{}
8
9 \newdimen\headwidth
10 \newcommand*{\extendedheaders}{}
11 \newcommand*{\normalheaders}{}
12
13 \newcommand*{\fancyhead}[2][{}]{
14 \newcommand*{\fancyfoot}[2][{}]{
15 \newcommand*{\fancyhf}[2][{}]{
16 \newcommand*{\fancyfoot}[2][{}]{
17 \newcommand*{\lhead}[2][{}]{

```

```

18 \newcommand*\chead}[2][{}]{}
19 \newcommand*\rhead}[2][{}]{}
20 \newcommand*\lfoot}[2][{}]{}
21 \newcommand*\cfoot}[2][{}]{}
22 \newcommand*\rfoot}[2][{}]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage}[2]{#2}
31 \newcommand*\ifftopfloat}[2]{#2}
32 \newcommand*\iffbotfloat}[2]{#2}

```

---

File 328 **lwarp-nccfoots.sty**

§ 437 Package **nccfoots**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccfoots (*Pkg*) nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3   \renewcommand*\Footnote}[1]{}%
4   \renewcommand*\Footnotemark}[1]{}%
5 }{}{}

```



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{\^{\mathrm{#1}}}}
8 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
9 \end{warpMathJax}

```

---

File 329 **lwarp-nccmath.sty**

§ 438 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccmath (*Pkg*) nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4

```



```

5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11   \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18   \begingroup
19   \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20   \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21   \boolfalse{LWR@numbereqnarray}
22   \LWR@eqnarrayfactor
23   \endgroup
24
25 }
26
27 \def\eqs{%
28   \@ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]
32
33 \begin{warpMathJax}
34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][{}]}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1]{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{#3}}

```

As of v0.86, MATHJAX v3 does not offer  $\backslash*$ , so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnostar}[1][0.5ex]{\[#1]}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnostar\LWRnrnostar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}
51 \CustomizeMathJax{\newcommand{\displaybreak}[1][{}]}

```

$\backslash eq$ ,  $\backslash eqs$ ,  $\backslash eqalign$  are created by L<sup>A</sup>T<sub>E</sub>X, not MATHJAX.

```

52 \end{warpMathJax}

```

---

File 330 **lwarp-needspace.sty**

§ 439 Package **needspace**

(Emulates or patches code by PETER WILSON.)

needspace (*Pkg*) needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```


---

File 331 **lwarp-newpxmath.sty**

§ 440 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

newpxmath (*Pkg*) newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from newtxmath is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```
18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21

```

```
22 \end{warpMathJax}
```


---

File 332 **lwarp-newtxmath.sty**

§ 441 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

`newtxmath` (*Pkg*) `newtxmath` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpixmap}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}
18
19 % only newtxmath, not newpixmap:
20 \LWR@mathjax@addgreek@u@it*{}{}
21 \LWR@mathjax@addgreek@l@it*{}{}
22
23 % only newtxmath, not newpixmap:
24 \ifdef{\iftx@BI}{
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}
```

Optional slanted Greek:


```
30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

File 333 **lwarp-newtxsf.sty**

§ 442 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

newtxsf (*Pkg*) newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpctxmath:
20 \LWR@mathjax@addgreek@u@it*{}{}
21 \LWR@mathjax@addgreek@l@it{}{}
22 %
23 % only newtxmath, not newpctxmath:
24 \ifdef{\iftx@BI}{
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

File 334 **lwarp-nextpage.sty**§ 443 Package **nextpage**

(Emulates or patches code by PETER WILSON.)

nextpage (*Pkg*) nextpage is ignored.

**for HTML output:** Discard all options for lwarp-nextpage.

```
1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

File 335 **lwarp-nfssex-cfr.sty**§ 444 Package **nfssex-cfr**

(Emulates or patches code by CLEA F. REES.)

nfssex-cfr (*Pkg*) nfssex-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssex-cfr}[2017/03/28]

Macros which are present in the lwarp core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embossstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}

```

```

24 \newrobustcmd{\LWR@HTML@tstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sihape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uihape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rihape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57   \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embosstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}

```

```
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sisshape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{% duplicated by fontaxes
117   \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122   \LetLtxMacro\lnstyle\@empty%
123   \LetLtxMacro\osstyle\@empty%
124   \LetLtxMacro\instyle\@empty%
125   \LetLtxMacro\sustyle\@empty%
126   \LetLtxMacro\swstyle\@empty%
127   \LetLtxMacro\pstyle\@empty%
128   \LetLtxMacro\tistyle\@empty%
129   \LetLtxMacro\ostyle\@empty%
130   \LetLtxMacro\postyle\@empty%
131   \LetLtxMacro\ltstyle\@empty%
132   \LetLtxMacro\ofstyle\@empty%
133   \LetLtxMacro\altstyle\@empty%
134   \LetLtxMacro\regstyle\@empty%
135   \LetLtxMacro\embossstyle\@empty%
136   \LetLtxMacro\ornamentalstyle\@empty%
137   \LetLtxMacro\qtstyle\@empty%
138   \LetLtxMacro\shstyle\@empty%
139   \LetLtxMacro\swashstyle\@empty%
140   \LetLtxMacro\tmstyle\@empty%
141   \LetLtxMacro\tvstyle\@empty%
142   \LetLtxMacro\style\@empty%
```

```

143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\lstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sisshape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}

```



```
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}
231 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
258 \LWR@formatted{textol}
259 \LWR@formatted{textswash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}
```

262 \LWR@formatted{textui}  
263 \LWR@formatted{textri}  
264 \LWR@formatted{textnw}  
265 \LWR@formatted{textcd}  
266 \LWR@formatted{textec}  
267 \LWR@formatted{textuc}  
268 \LWR@formatted{textet}  
269 \LWR@formatted{textep}  
270 \LWR@formatted{textex}  
271 \LWR@formatted{textux}  
272 \LWR@formatted{textrw}  
273 \LWR@formatted{textmb}  
274 \LWR@formatted{textdb}  
275 \LWR@formatted{textsb}  
276 % \LWR@formatted{texteb}  
277 \LWR@formatted{textub}  
278 % \LWR@formatted{textlg}  
279 \LWR@formatted{textel}  
280 \LWR@formatted{textul}  
281  
  
282 \FilenameNullify{%  
283 \LetLtxMacro\textln\@firstofone%  
284 \LetLtxMacro\textos\@firstofone%  
285 \LetLtxMacro\textin\@firstofone%  
286 \LetLtxMacro\textsu\@firstofone%  
287 % \LetLtxMacro\textsi\@firstofone%  
288 \LetLtxMacro\textdf\@firstofone%  
289 \LetLtxMacro\textsw\@firstofone%  
290 \LetLtxMacro\textti\@firstofone%  
291 \LetLtxMacro\textlt\@firstofone%  
292 \LetLtxMacro\textof\@firstofone%  
293 \LetLtxMacro\textalt\@firstofone%  
294 \LetLtxMacro\textreg\@firstofone%  
295 \LetLtxMacro\emboss\@firstofone%  
296 \LetLtxMacro\textorn\@firstofone%  
297 \LetLtxMacro\textqt\@firstofone%  
298 \LetLtxMacro\textsh\@firstofone%  
299 \LetLtxMacro\texttm\@firstofone%  
300 \LetLtxMacro\texttv\@firstofone%  
301 \LetLtxMacro\textl\@firstofone%  
302 \LetLtxMacro\texto\@firstofone%  
303 \LetLtxMacro\textp\@firstofone%  
304 \LetLtxMacro\textt\@firstofone%  
305 \LetLtxMacro\textpl\@firstofone%  
306 \LetLtxMacro\textpo\@firstofone%  
307 \LetLtxMacro\texttl\@firstofone%  
308 \LetLtxMacro\textto\@firstofone%  
309 \LetLtxMacro\textol\@firstofone%  
310 \LetLtxMacro\textswash\@firstofone%  
311 \LetLtxMacro\textu\@firstofone%  
312 \LetLtxMacro\textscu\@firstofone%  
313 \LetLtxMacro\textui\@firstofone%  
314 \LetLtxMacro\textri\@firstofone%  
315 \LetLtxMacro\textnw\@firstofone%  
316 \LetLtxMacro\textcd\@firstofone%  
317 \LetLtxMacro\textec\@firstofone%  
318 \LetLtxMacro\textuc\@firstofone%  
319 \LetLtxMacro\textet\@firstofone%  
320 \LetLtxMacro\textep\@firstofone%

```

321 \LetLtxMacro\textex\@firstofone%
322 \LetLtxMacro\textux\@firstofone%
323 \LetLtxMacro\textrw\@firstofone%
324 \LetLtxMacro\textmb\@firstofone%
325 \LetLtxMacro\textdb\@firstofone%
326 \LetLtxMacro\textsb\@firstofone%
327 % \LetLtxMacro\texteb\@firstofone%
328 \LetLtxMacro\textub\@firstofone%
329 % \LetLtxMacro\textlg\@firstofone%
330 \LetLtxMacro\textel\@firstofone%
331 \LetLtxMacro\textul\@firstofone%
332 }
333
334 \providecommand*\zeroslash{}
335 \newrobustcmd*\LWR@HTML@zeroslash{}
336 \LWR@formatted{zeroslash}

```

---

File 336 **lwarp-nicefrac.sty**

§ 445 Package **nicefrac**

*(Emulates or patches code by AXEL REICHERT.)*

nicefrac (*Pkg*) nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]
2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[]]{%
3   {% localize font selection
4     #1{%
5       \LWR@textcurrentfont{%
6         \InlineClass{numerator}{#2}%
7         /%
8         \InlineClass{denominator}{#3}%
9       }%
10    }%
11  }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[]]{%
17   {% localize font selection
18     #1{\LWR@textcurrentfont{#2/#3}}%
19   }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

**For MATHJAX:**

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{newcommand{\nicefrac}[3][[]]{\mathinner{{}^{\#2}\!/_{\#3}}}}
25 \end{warpMathJax}

```

File 337 **lwarp-niceframe.sty**§ 446 Package **niceframe**

niceframe (*Pkg*) niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format


```

2 \newcommand{\LWR@niceframe}[3]{%
3   \begin{LWR@setvirtualpage}*%
4   \setlength{\LWR@templengthone}{#1}%
5   \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6   #2
7   \end{BlockClass}%
8   \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}
```

File 338 **lwarp-nicematrix.sty**§ 447 Package **nicematrix**

(Emulates or patches code by F. PANTIGNY.)

nicematrix (*Pkg*) nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

**for HTML output:** Skip the test for array, which does not work with lwarp:

```

1 \PassOptionsToPackage{no-test-for-array}{nicematrix}
2 \LWR@ProvidesPackagePass{nicematrix}[2022/10/06]
```

NiceTabular must be converted to SVG to support the various nicematrix options:

```

3 \begin{warpHTML}
4 \BeforeBeginEnvironment{NiceTabular}{%
5   \begin{lateximage}[-nicematrix--\PackageDiagramAltText]%
6 }
7 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
8 \BeforeBeginEnvironment{NiceTabular*}{%
```

```

9   \begin{lateximage}[-nicematrix--\PackageDiagramAltText]%
10  }
11  \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
12  \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

13  \begin{warpMathJax}
14  \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
15  \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
16
17  \CustomizeMathJax{%
18    \newenvironment{NiceArray}[2][[%
19      {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
20      {\end{array}}}%
21  }
22
23  \CustomizeMathJax{%
24    \newcommand{\LWRnicearraywithdelimitwo}[2][[%
25      \ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
26      ]%
27  }

```

General case with left / right delimiters:

```

28  \CustomizeMathJax{%
29    \newenvironment{NiceArrayWithDelims}[2]%
30      {%
31        \def\LWRnicearrayrightdelim{\right#2}%
32        \left#1%
33        \LWRnicearraywithdelimitwo%
34      }%
35    {\end{array}\LWRnicearrayrightdelim}%
36  }

```

Instances of specific delimiters:

```

37  \CustomizeMathJax{%
38    \newenvironment{pNiceArray}
39      {\begin{NiceArrayWithDelims}{(}{)}%
40      {\end{NiceArrayWithDelims}}
41  }
42
43  \CustomizeMathJax{%
44    \newenvironment{bNiceArray}
45      {\begin{NiceArrayWithDelims}{[}{]}%
46      {\end{NiceArrayWithDelims}}
47  }
48
49  \CustomizeMathJax{%
50    \newenvironment{BNiceArray}
51      {\begin{NiceArrayWithDelims}{\{}{\}}%
52      {\end{NiceArrayWithDelims}}
53  }
54
55  \CustomizeMathJax{%
56    \newenvironment{vNiceArray}
57      {\begin{NiceArrayWithDelims}{\vert}{\vert}}%
58      {\end{NiceArrayWithDelims}}
59  }

```

```

60
61 \CustomizeMathJax{%
62   \newenvironment{VNiceArray}
63     {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}
64     {\end{NiceArrayWithDelims}}
65 }

```

Ignore optional arg and use standard environments:

```

66 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
67 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
70 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
71 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

72 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
73 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
74
75 \CustomizeMathJax{%
76   \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
77 }

```

Form an approximation:

```

78 \CustomizeMathJax{%
79   \newcommand{\diagbox}[2]{%
80     \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
81   }%
82 }

```

More approximations:

```

83 \CustomizeMathJax{\let\hdottedline\hdashline}

84 \CustomizeMathJax{\newcommand{\Hline}[1][\hline]}

85 \CustomizeMathJax{\newcommand{\CodeBefore}{} }
86 \CustomizeMathJax{\newcommand{\Body}{} }
87 \CustomizeMathJax{\newcommand{\CodeAfter}{} }
88 \CustomizeMathJax{\newcommand{\line}[3][{}]}
89 \CustomizeMathJax{\newcommand{\RowStyle}[2][{}]}
90 \CustomizeMathJax{\newcommand{\LWRSubMatrix}[1][{}]}
91 \CustomizeMathJax{\newcommand{\SubMatrix}[4]{\LWRSubMatrix}}
92 \CustomizeMathJax{\newcommand{\OverBrace}[4][{}]}
93 \CustomizeMathJax{\newcommand{\UnderBrace}[4][{}]}
94 \CustomizeMathJax{\newcommand{\ShowCellNames}{} }

95 \CustomizeMathJax{\newcommand{\cellcolor}[3][{}]}
96 \CustomizeMathJax{\newcommand{\rowcolor}[3][{}]}
97 \CustomizeMathJax{\newcommand{\LWRrowcolors}[1][{}]}
98 \CustomizeMathJax{\newcommand{\rowcolors}[4][\LWRrowcolors]}
99 \CustomizeMathJax{\newcommand{\rowlistcolors}[3][\LWRrowcolors]}
100 \CustomizeMathJax{\newcommand{\columncolor}[3][{}]}
101 \CustomizeMathJax{\newcommand{\rectanglecolor}[4][{}]}

```

```

102 \CustomizeMathJax{\newcommand{\arraycolor}[2][{}]}
103 \CustomizeMathJax{\newcommand{\chessboardcolors}[3][{}]}

104 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
105 \CustomizeMathJax{\newcommand{\Cdots}[1][\cdots]}
106 \CustomizeMathJax{\newcommand{\Vdots}[1][\vdots]}
107 \CustomizeMathJax{\newcommand{\Ddots}[1][\ddots]}
108 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
109
110 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
111 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate `AutoNiceMatrix` in `MATHJAX`.

```

112 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
113 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
114 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
115 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
116 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
117 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
118 \end{warpMathJax}

```

---

File 339 **lwarp-noitcrul.sty**

§ 448 Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

`noitcrul` (*Pkg*) `noitcrul` is used as-is for `svg` and emulated for `MATHJAX`.

**for HTML output:** 1 `LWR@ProvidesPackagePass{noitcrul}[2006/04/11]`

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}

```

---

File 340 **lwarp-nolbreaks.sty**

§ 449 Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

`nolbreaks` (*Pkg*) `nolbreaks` is emulated.

**for HTML output:** 1 `LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]`

```

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

---

File 341 **lwarp-nomencl.sty**

§ 450 Package **nomencl**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

`nomencl` (*Pkg*) `nomencl` is patched for use by `lwarp`.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o
<project>_html.nls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
2 \def\@@@nomenclature[#1]#2#3{%
3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{%
5 {\string\nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
6 \begin@group\nom@verb\@tempb\protect\nomeqref{\theequation}%
7 |nompageref}{\theLWR@previousautopagelabel}}% lwarp
8 \endgroup
9 \@esphack}
10
11 \renewcommand*\@pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

File 342 **lwarp-nonfloat.sty**

§ 451 Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

`nonfloat` (*Pkg*) `nonfloat` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```
2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capytype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capytype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

File 343 **lwarp-nonumonpart.sty**

§ 452 Package **nonumonpart**

`nonumonpart` (*Pkg*) `nonumonpart` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

File 344 **lwarp-nopageno.sty**

§ 453 Package **nopageno**

`nopageno` (*Pkg*) `nopageno` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]



---

File 345 **lwarp-notes.sty**

§ 454 Package **notes**

notes (*Pkg*) notes is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```

2 \newcommand*\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4   {
5     \BlockClass{notes#1}
6     \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7     \BlockClass{notescontents}
8   }
9   {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 346 **lwarp-notespages.sty**

§ 455 Package **notespages**

notespages (*Pkg*) notespages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*\nnotesname{}
3 \newcommand*\nnotestext{}
4 \newcommand*\remainingtextheight{}
5 \newdimen\remainingtextheight
6 \newcommand*\notestitletext{}
7 \newcommand*\notesareatext{}
8 \newcommand*\nnpinfo[1]{}
9 \newcommand*\tracingnmarks{}
10 \newcommand*\notespage[1][{}]{
11 \newcommand*\notespages[1][{}]{
12 \newcommand*\notesfill[1][{}]{
13 \newcommand*\setnotespages[1]{}
14 \newcommand*\definnotesoption[2]{}
15 \newcommand*\definnotesstyle[2]{}
16 \newcommand*\definetitlestyle[2]{}
17 \newcommand*\nppatchchapter[1]{}
18 \newcommand*\npunpatchchapter{}

```

---

File 347 **lwarp-nowidow.sty**

§ 456 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

nowidow (*Pkg*) nowidow is ignored.

**for HTML output:** Disabled in this Pack for lwarp-nowidow [5011/09/20]

<code>\nowidow</code>	<code>[\langle lines \rangle]</code>
<code>\setnowidow</code>	<code>[\langle lines \rangle]</code>
	2 <code>\newcommand*\{nowidow}[1][\{\}</code>
	3 <code>\newcommand*\{setnowidow}[1][\{\}</code>
<code>\noclub</code>	<code>[\langle lines \rangle]</code>
<code>\setnoclub</code>	<code>[\langle lines \rangle]</code>
	4 <code>\newcommand*\{noclub}[1][\{\}</code>
	5 <code>\newcommand*\{setnoclub}[1][\{\}</code>

---

File 348 **lwarp-ntheorem.sty**

§ 457 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

ntheorem (*Pkg*) ntheorem is patched for use by lwarp.

---

Table 20: Ntheorem package — css styling of theorems and proofs


**Theorem:** `<div> of class theorembody<theoremstyle>`


**Theorem Header:** `<span> of class theoremheader<style>`

where `<theoremstyle>` is `plain`, `break`, etc.

---


### § 457.1 Limitations

 **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

 **Equation numbering** ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option `thref` is used. lwarp does not share this bug, so equations with `\split`, etc, are numbered correctly with lwarp's HTML output, but not with the print output. It is recommended to use `cleveref` instead of ntheorem's `thref` option.

## § 457.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

 **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because `lwarp` emulated `hyperref`.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2   \AtEndDocument{
3     \PackageWarningNoLine{lwarp}{%
4       Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5       referencing, including
6         \protect\label \space and \protect\thref.\MessageBreak
7       Cleveref does not accept ntheorem's optional\MessageBreak
8       argument for \protect\label, so it will appear\MessageBreak
9       in the text. It is recommended to remove the\MessageBreak
10      thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11      and remove any trailing optional arguments for \protect\label%
12    }%
13  }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```

§ 457.3 **Remembering the theorem style**

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{cleveref}{
39 \gdef\@thm#1#2#3{%
40   \if@thmmarks
41     \stepcounter{end\InTheoType ctr}%
42   \fi
43   \renewcommand{\InTheoType}{#1}%
44   \if@thmmarks
45     \stepcounter{curr#1ctr}%
46     \setcounter{end#1ctr}{0}%
47   \fi
48   \refstepcounter[#1]{#2}% <<< cleveref modification
49   \theorem@prework
50   \LWR@forcenewpage% lwarp

51   \LWR@printpendingfootnotes%           lwarp

52   \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
53   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55     \ifthm@inframe
56       \thm@topsep\theoreminframepreskipamount
57       \thm@topsepadd\theoreminframepostskipamount
58     \else
59       \thm@topsep\theorempreskipamount
60       \thm@topsepadd\theorempostskipamount
61     \fi
62     \else% oldframeskips
63       \thm@topsep\theorempreskipamount
64       \thm@topsepadd \theorempostskipamount
65       \ifvmode\advance\thm@topsepadd\partopsep\fi
66   \fi
67   \@topsep\thm@topsep
68   \@topsepadd\thm@topsepadd
69   \advance\linewidth -\theorem@indent
70   \advance\linewidth -\theorem@rightindent
71   \advance\@totalleftmargin \theorem@indent
72   \parshape \@ne \@totalleftmargin \linewidth
73   \ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
74 }
75 }{% not @ifpackageloaded{cleveref}
76 \gdef\@thm#1#2#3{%
77   \if@thmmarks
78     \stepcounter{end\InTheoType ctr}%
79   \fi
80   \renewcommand{\InTheoType}{#1}%
81   \if@thmmarks
82     \stepcounter{curr#1ctr}%
83     \setcounter{end#1ctr}{0}%
84   \fi
85   \refstepcounter{#2}%
86   \theorem@prework
87   \LWR@forcenewpage% lwarp

```

```

88   \LWR@printpendingfootnotes%                lwarp

89   \BlockClass{theorembody#1}%\LWR@thmstyle% lwarp
90   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92   \ifthm@inframe
93     \thm@topsep\theoreminframepreskipamount
94     \thm@topsepadd\theoreminframepostskipamount
95   \else
96     \thm@topsep\theorempreskipamount
97     \thm@topsepadd\theorempostskipamount
98   \fi
99   \else% oldframeskips
100    \thm@topsep\theorempreskipamount
101    \thm@topsepadd \theorempostskipamount
102    \ifvmode\advance\thm@topsepadd\partopsep\fi
103  \fi
104  \@topsep\thm@topsep
105  \@topsepadd\thm@topsepadd
106  \advance\linewidth -\theorem@indent
107  \advance\linewidth -\theorem@rightindent
108  \advance\@totalleftmargin \theorem@indent
109  \parshape \@ne \@totalleftmargin \linewidth
110  \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
111 }
112 }
113 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

114 \gdef\theoremstyle#1{%
115   \@ifundefined{th@#1}{\@warning
116     {Unknown theoremstyle '#1'. Using 'plain'}}%
117   \theorem@style{plain}
118   \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
119   }%
120   {
121     \theorem@style{#1}
122     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
123   }
124 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

125
126 \gdef\@xthm#1#2[#3]{%
127   \ifthm@tempif
128     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
129     \expandafter\@ifundefined{c@#1}%
130     {\@definecounter{#1}}{%
131     \@newctr{#1}[#3]%
132     \expandafter\xdef\csname the#1\endcsname{%
133       \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
134       {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
135     \expandafter\gdef\csname mkheader@#1\endcsname
136     {\csname setparms@#1\endcsname
137     \@thm{#1}{#1}{#2}
138     }%

```

```

139   \global\@namedef{end#1}{\@endtheorem}
140   \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
141   \fi
142 }
143
144 \gdef\@ynthm#1#2{%
145   \ifthm@tempif
146     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
147     \expandafter\ifundefined{c@#1}%
148       {\@definecounter{#1}}{%
149         \expandafter\xdef\csname the#1\endcsname
150           {\noexpand\csname\the\theoremnumbering\endcsname{#1}}%
151         \expandafter\gdef\csname mkheader@#1\endcsname
152           {\csname setparms@#1\endcsname
153             \@thm{#1}{#1}{#2}
154           }%
155         \global\@namedef{end#1}{\@endtheorem}
156         \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
157         \fi
158 }
159
160 \gdef\@othm#1[#2]#3{%
161   \ifundefined{c@#2}{\@nocounterr{#2}}%
162   {\ifthm@tempif
163     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
164     \global\@namedef{the#1}{\@nameuse{the#2}}%
165     \expandafter\protected@xdef\csname num@addtheoremLine#1\endcsname{%
166       \noexpand\@num@addtheoremLine{#1}{#3}}%
167     \expandafter\protected@xdef\csname nonum@addtheoremLine#1\endcsname{%
168       \noexpand\@nonum@addtheoremLine{#1}{#3}}%
169     \theoremkeyword{#3}%
170     \expandafter\protected@xdef\csname #1Keyword\endcsname
171       {\the\theoremkeyword}%
172     \expandafter\gdef\csname mkheader@#1\endcsname
173       {\csname setparms@#1\endcsname
174         \@thm{#1}{#2}{#3}
175       }%
176     \global\@namedef{end#1}{\@endtheorem}
177     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
178     \fi}
179 }

```

#### § 457.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

180 \newcommand{\LWR@inctheorem}{%
181 \addtocounter{LWR@thisautoid}{1}%
182 \LWR@stoppars%
183 \LWR@htmltag%
184 a id=\textquotedbl\LWR@print@box{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmltag{/a}\LWR@orignewline%
187 \LWR@startpars%
188 }

```

### § 457.5 `\newtheoremstyle`

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a `BlockClass` environment of class `theorembody<style>`.

Each header is encased in an `InlineClass` of class `theoremheader<style>`.

```

189 \gdef\newtheoremstyle#1#2#3{%
190   \expandafter\@ifundefined{th@#1}%
191     {\expandafter\gdef\csname th@#1\endcsname{%
192       \def\@begintheorem####1####2{%
193         \LWR@intheorem% lwarp
194         #2}%
195       \def\@opargbegintheorem####1####2####3{%
196         \LWR@intheorem% lwarp
197         #3}%
198     }%
199 }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
201 }

```

### § 457.6 **Standard styles**

```

202 \renewtheoremstyle{plain}%
203   {\item[
204     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
205   {\item[
206     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
207
208 \renewtheoremstyle{break}%
209   {\item[
210     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
211   ]}%
212   {\item[
213     \InlineClass{theoremheaderbreak}%
214       {##1\ ##2\ (##3)\theorem@separator}\newline
215   ]}
216
217 \renewtheoremstyle{change}%
218   {\item[
219     \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
220   {\item[
221     \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]}
222
223 \renewtheoremstyle{changebreak}%
224   {\item[
225     \InlineClass{theoremheaderchangebreak}%
226       {##2\ ##1\theorem@separator}\newline
227   ]}%
228   {\item[
229     \InlineClass{theoremheaderchangebreak}%
230       {##2\ ##1\ (##3)\theorem@separator}\newline
231   ]}
232
233 \renewtheoremstyle{margin}%
234   {\item[

```

```

235     \InlineClass{theoremheadermargin}{##2 \quad ##1\theoremseparator}
236   ]}%
237  {\item[
238     \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theoremseparator}
239   ]}
240
241  \renewtheoremstyle{marginbreak}%
242  {\item[
243     \InlineClass{theoremheadermarginbreak}%
244     {##2 \quad ##1\theoremseparator}\newline
245   ]}%
246  {\item[
247     \InlineClass{theoremheadermarginbreak}%
248     {##2 \quad ##1\ (##3)\theoremseparator}\newline
249   ]}
250
251  \renewtheoremstyle{nonumberplain}%
252  {\item[
253     \InlineClass{theoremheaderplain}{##1\theoremseparator}]}%
254  {\item[
255     \InlineClass{theoremheaderplain}{##1\ (##3)\theoremseparator}]}
256
257  \renewtheoremstyle{nonumberbreak}%
258  {\item[
259     \InlineClass{theoremheaderbreak}{##1\theoremseparator}\newline
260   ]}%
261  {\item[
262     \InlineClass{theoremheaderbreak}{##1\ (##3)\theoremseparator}\newline
263   ]}
264
265  \renewtheoremstyle{empty}%
266  {\item[]}%
267  {\item[
268     \InlineClass{theoremheaderplain}{##3}]}
269
270  \renewtheoremstyle{emptybreak}%
271  {\item[]}%
272  {\item[
273     \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 457.7 Additional objects

The following manually adjust the CSS for the standard configuration objects which are not a purely plain style:

```
274 \ifbool{LWR@theoremamsthm}{}{%
```

Upright text via CSS:

```

275  \newtheoremstyle{plainupright}%
276  {\item[
277     \InlineClass{theoremheaderplain}{##1\ ##2\theoremseparator}]}%
278  {\item[
279     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theoremseparator}]}

```

Upright text and small caps header via CSS:

```

280  \newtheoremstyle{nonumberplainuprightsc}%
281  {\item[

```



```

282     \InlineClass{theoremheadersc}{##1\theoremseparator}}}%
283     {\item[
284     \InlineClass{theoremheadersc}{##1\ (##3)\theoremseparator}}]}
285 ]% not amsthm

```

## §457.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

286 \ifbool{LWR@theoremamsthm}{}%

287 \ifx\thm@usestd\undefined
288 \else
289   \theoremnumbering{arabic}
290   \theoremstyle{plain}
291   \RequirePackage{latexsym}
292   \theoremsymbol{\Box}
293   \theorembodyfont{\itshape}
294   \theoremheaderfont{\normalfont\bfseries}
295   \theoremseparator{}
296   \renewtheorem{Theorem}{Theorem}
297   \renewtheorem{theorem}{Theorem}
298   \renewtheorem{Satz}{Satz}
299   \renewtheorem{satz}{Satz}
300   \renewtheorem{Proposition}{Proposition}
301   \renewtheorem{proposition}{Proposition}
302   \renewtheorem{Lemma}{Lemma}
303   \renewtheorem{lemma}{Lemma}
304   \renewtheorem{Korollar}{Korollar}
305   \renewtheorem{korollar}{Korollar}
306   \renewtheorem{Corollary}{Corollary}
307   \renewtheorem{corollary}{Corollary}
308
309   \theoremstyle{plainupright}
310   \theorembodyfont{\upshape}
311   \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
312   \renewtheorem{Example}{Example}
313   \renewtheorem{example}{Example}
314   \renewtheorem{Beispiel}{Beispiel}
315   \renewtheorem{beispiel}{Beispiel}
316   \renewtheorem{Bemerkung}{Bemerkung}
317   \renewtheorem{bemerkung}{Bemerkung}
318   \renewtheorem{Anmerkung}{Anmerkung}
319   \renewtheorem{anmerkung}{Anmerkung}
320   \renewtheorem{Remark}{Remark}
321   \renewtheorem{remark}{Remark}
322   \renewtheorem{Definition}{Definition}
323   \renewtheorem{definition}{Definition}
324
325   \theoremstyle{nonumberplainuprightsc}
326   \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
327   \renewtheorem{Proof}{Proof}
328   \renewtheorem{proof}{Proof}
329   \renewtheorem{Beweis}{Beweis}
330   \renewtheorem{beweis}{Beweis}
331   \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
332
333   \theoremsymbol{}
334 \fi
335 ]% not amsthm

```

§ 457.9 **amsthm option**

Only if the amsthm option was given:

```

336 \ifbool{LWR@theoremamsthm}{
337
338 \gdef\th@plain{%
339   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
340   \def\@begintheorem##1##2{%
341     \LWR@intheorem% lwarp
342     \item[
343   \InlineClass{theoremheaderplain}{##1\ ##2.}
344     ]}%
345   \def\@opargbegintheorem##1##2##3{%
346     \LWR@intheorem% lwarp
347     \item[
348   \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
349     ]}}
350
351 \gdef\th@nonumberplain{%
352   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
353   \def\@begintheorem##1##2{%
354     \LWR@intheorem% lwarp
355     \item[
356   \InlineClass{theoremheaderplain}{##1.}
357     ]}%
358   \def\@opargbegintheorem##1##2##3{%
359     \LWR@intheorem% lwarp
360     \item[
361   \InlineClass{theoremheaderplain}{##1\ (##3).}
362     ]}}
363
364 \gdef\th@definition{%
365   \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
366   \def\@begintheorem##1##2{%
367     \LWR@intheorem% lwarp
368     \item[
369   \InlineClass{theoremheaderdefinition}{##1\ ##2.}
370     ]}%
371   \def\@opargbegintheorem##1##2##3{%
372     \LWR@intheorem% lwarp
373     \item[
374   \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
375     ]}}
376
377 \gdef\th@nonumberdefinition{%
378   \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
379   \def\@begintheorem##1##2{%
380     \LWR@intheorem% lwarp
381     \item[
382   \InlineClass{theoremheaderdefinition}{##1.}
383     ]}%
384   \def\@opargbegintheorem##1##2##3{%
385     \LWR@intheorem% lwarp
386     \item[
387   \InlineClass{theoremheaderdefinition}{##1\ (##3).}
388     ]}}
389
390 \gdef\th@remark{%
391   \def\theorem@headerfont{\itshape}\normalfont%

```

```

392 \def\@begintheorem##1##2{%
393     \LWR@intheorem% lwarp
394     \item[
395     \InlineClass{theoremheaderremark}{##1\ ##2.}
396     ]}%
397 \def\@opargbegintheorem##1##2##3{%
398     \LWR@intheorem% lwarp
399     \item[
400     \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
401     ]}]
402
403 \gdef\th@nonumberremark{%
404     \def\theorem@headerfont{\itshape}\normalfont%
405     \def\@begintheorem##1##2{%
406         \LWR@intheorem% lwarp
407         \item[
408         \InlineClass{theoremheaderremark}{##1.}
409         ]}%
410     \def\@opargbegintheorem##1##2##3{%
411         \LWR@intheorem% lwarp
412         \item[
413         \InlineClass{theoremheaderremark}{##1\ (##3).}
414         ]}]
415
416 \gdef\th@proof{%
417     \def\theorem@headerfont{\normalfont\bfseries}\itshape%
418     \def\@begintheorem##1##2{%
419         \LWR@intheorem% lwarp
420         \item[
421         \InlineClass{theoremheaderproof}{##1.}
422         ]}%
423     \def\@opargbegintheorem##1##2##3{%
424         \LWR@intheorem% lwarp
425         \item[
426         \InlineClass{theoremheaderproof}{##1\ (##3).}
427         ]}]
428
429
430
431 \newcounter{proof}%
432 \if@thmmarks
433     \newcounter{currproofctr}%
434     \newcounter{endproofctr}%
435 \fi
436
437 \gdef\proofSymbol{\openbox}
438
439 \newcommand{\proofname}{Proof}
440
441 \newenvironment{proof}[1][\proofname]{
442     \th@proof
443     \def\theorem@headerfont{\itshape}%
444     \normalfont
445     \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
446     \@thm{proof}{proof}{#1}
447 }%
448 {\@endtheorem}
449
450 }{}% amsthm option

```

§ 457.10 **Ending a theorem**

Patched for css:

```

451 \let\LWR@origendtheorem\endtheorem
452 \renewcommand{\@endtheorem}{%
453 \ifbool{LWR@theoremmarks}{%
454   \ifsetendmark%
455   \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456   \setendmarkfalse%
457   \fi%
458 }{}%
459 \LWR@origendtheorem% also does \@endtrivlist
460 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%

461   \LWR@printpendingfootnotes%                               lwarp

462 \endBlockClass%
463 }
```

§ 457.11 **\NoEndMark**

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 457.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```

\thm@thmline {\langle 1: printed type\rangle} {\langle 2: #\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}

465 \renewcommand{\thm@thmline@noname}[4]{%
466 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
467 }
468
469 \renewcommand{\thm@thmline@name}[4]{%
470 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
471 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
472 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```

473 \def\listtheorems#1{
474 \LWR@htmlElementclass{nav}{lohtm}%
475 \begingroup
476 \c@tocdepth=-2%
477 \def\thm@list{#1}\thm@processlist
478 \endgroup
479 \LWR@htmlElementclassend{nav}{lohtm}%
480 }
```

§ 457.13 **Symbols**

Proof QED symbol:

```

481 \newcommand{\qed}{\quad\the\qedsymbol}
482
483 \AtBeginDocument{
484 \ifundefined{LWR@orig@openbox}{
485 \LetLtxMacro\LWR@orig@openbox\openbox
486 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
487 \LetLtxMacro\LWR@orig@Box\Box
488
489 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
490 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
491 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
492
493 \appto\LWR@restoreorigformatting{%
494 \LetLtxMacro\openbox\LWR@orig@openbox%
495 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
496 \LetLtxMacro\Box\LWR@orig@Box%
497 }% \appto
498 }{}% \ifundefined
499 }% \AtBeginDocument

```

§ 457.14 **Cross-referencing**

`\thref {<label>}`

```

500 \newcommand*{\thref}[1]{\cref{#1}}%

```

File 349 **lwarp-octave.sty**§ 458 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

octave (*Pkg*) **octave** is patched for use by **lwarp**.

**for HTML output:** `1 \LWR@ProvidesPackagePass{octave}[2017/10/31]`

Remove the leading 1pt kern:

```

2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% \lwarp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }

```

Use unicode for the prime character:

```

11 \RenewDocumentCommand{\@Tick}{\HTMLUnicode{2032}}

```

Catch the inline font:

```

12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15   \pitchfont{%
16     \LWR@textcurrentfont{% lwarp
17       \MakeUppercase{#1}%
18       \IfValueTF{#2}{#2}{}\textsubscript{#3}%
19     }%
20   }%
21 }%
22 \else%
23 {%
24   \pitchfont{%
25     \LWR@textcurrentfont{% lwarp
26       \@GetOctaveTick{#1}[#2]{#3}%
27     }%
28   }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to lwarp's handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

---

File 350 **lwarp-orcidlink.sty**

§ 459 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

orcidlink (*Pkg*) **orcidlink** is patched for use by lwarp.

**for HTML output:**

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]

4 \renewcommand\orcidlink[1]{%
5   \texorpdfstring%
6     {%
7       \href%
8         {https://orcid.org/#1}%

```

```

9           {%
10          \begin{lateximage}[orcid #1]%   lwarp
11          \mbox{%
12            \scalerele*{%
13              \begin{tikzpicture}[yscale=-1,transform shape]
14                \pic{orcidlogo};
15              \end{tikzpicture}
16            }{|}%
17          }%
18          \end{lateximage}%   lwarp
19        }%
20      }%
21    {}%
22  }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{} }
26 \end{warpMathJax}

```


---

File 351 **lwarp-overpic.sty**

§ 460 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

overpic (*Pkg*) **overpic** is patched for use by **lwarp**.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

See section 88.2 for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]
2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6   \begin{lateximage}%
7   \fontsize{\overpicfontsize}{\overpicfontskip}%
8   \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14   \begin{lateximage}%
15   \fontsize{\overpicfontsize}{\overpicfontskip}%
16   \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}

```

---

File 352 **lwarp-pagegrid.sty**

§ 461 Package **pagegrid**

pagegrid (*Pkg*) pagegrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]


2 \newcommand\*{\pagegridsetup}[1]{}

---

File 353 **lwarp-pagenote.sty**

§ 462 Package **pagenote**

pagenote (*Pkg*) pagenote works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:** 1 \DeclareOption{page}{}  
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@synconotenumbers{\LWR@synconenotenummer{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{{}^{\mathrm{#1}}}}
7 \end{warpMathJax}
```

There is no \pagenotemark, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@synconotenames{\LWR@synconenotename{\LWRpagenote}{\pagenotename}}
```

---

File 354 **lwarp-pagesel.sty**

§ 463 Package **pagesel**

pagesel (*Pkg*) pagesel is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

---

File 355 **lwarp-paralist.sty**

§ 464 Package **paralist**

(Emulates or patches code by BERND SCHANDL.)



`paralist` (*Pkg*) `paralist` is supported with minor changes.

**for HTML output:** 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

File 356 **lwarp-parallel.sty**

§ 465 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

`parallel` (*Pkg*) `parallel` is emulated.

Package options are ignored. Footnotes are treated as normal `lwarp` footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

**for HTML output:** Discard all options for `lwarp-parallel`:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*\LWR@parallel@border{}
5
6 \newenvironment*{Parallel}[3][[%
7   {%
8     \LWR@printpendingfootnotes%
9     \setlength{\linewidth}{\LWR@userstextwidth}%
10    \setlength{\textwidth}{\LWR@userstextwidth}%
11    \renewcommand*\LWR@parallel@border}{}%
12    \ifstrequal{#1}{v}%
13      {%
14        \renewcommand*\LWR@parallel@border}{ ; border-left: 2px solid black}%
```

```

15     }%
16     {}%
17     \ifblank{#2}{%
18         \ifblank{#3}{% {}{}
19             \setcounter{LWR@parallel@Lwidth}{45}%
20             \setcounter{LWR@parallel@Rwidth}{45}%
21         }% {}{}
22     }% {}{x}
23     \setlength{LWR@templengthone}{\linewidth-#3}%
24     \setcounter{LWR@parallel@Lwidth}{%
25         90*\ratio{LWR@templengthone}{\linewidth}%
26     }%
27     \setcounter{LWR@parallel@Rwidth}{%
28         90*\ratio{#3}{\linewidth}%
29     }%
30     }% {}{x}
31 }% #2 blank
32 }% #2 non-blank
33     \ifblank{#3}{% {}{}
34         \setcounter{LWR@parallel@Lwidth}{%
35             90*\ratio{#2}{\linewidth}%
36         }%
37         \setlength{LWR@templengthone}{\linewidth-#2}%
38         \setcounter{LWR@parallel@Rwidth}{%
39             90*\ratio{LWR@templengthone}{\linewidth}%
40         }%
41     }% {}{}
42     }% {}{x}
43         \setcounter{LWR@parallel@Lwidth}{%
44             90*\ratio{#2}{\linewidth}%
45         }%
46         \setcounter{LWR@parallel@Rwidth}{%
47             90*\ratio{#3}{\linewidth}%
48         }%
49     }% {}{x}
50 }% #2 non-blank
51 }
52 {}%
53     \ParallelAtEnd%
54     \renewcommand*{\ParallelAtEnd}{}%
55     \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLText}[1]{%
59     \begin{BlockClass}[%
60         width:\arabic{LWR@parallel@Lwidth}\% ; % space
61         padding: .5ex 1\% ; % space
62     ]{minipage}%
63     #1%
64     \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68     \begin{BlockClass}[%
69         width:\arabic{LWR@parallel@Rwidth}\% ; % space
70         padding: .5ex 1\% ; % space
71         \LWR@parallel@border%
72     ]{minipage}%
73     #1%
74     \end{BlockClass}%

```

```

75 }
76
77 \newcommand*\ParallelPar{\LWR@printpendingfootnotes}
78
79 \newcommand*\ParallelAtEnd{}
```

---

File 357 **lwarp-parcolumns.sty**

§ 466 Package **parcolumns**

*(Emulates or patches code by JONATHAN SAUER.)*

parcolumns (*Pkg*) parcolumns is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, \linewidth, \textwidth, and \textheight are set for a virtual 6 × 9 inch page, with \linewidth divided by the number of columns.

**for HTML output:** Discard all options for lwarp-parcolumns:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13   \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][
20   {%
21     \begin{LWR@setvirtualpage}*[#2]%
22     \setcounter{LWR@parcolumns@numcols}{#2}%
23     \setcounter{LWR@parcolumns@thiscol}{1}%
24     \boolfalse{LWR@parcolumns@started}%
25     \boolfalse{LWR@parcolumns@rule}%
26     \setcounter{LWR@parcolumns@width}{%
27       85/#2
28     }%
29     \setkeys{LWRparcols}{#1}%
30   }
31   {%
```

```

32     \colplacechunks%
33     \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37     \ifbool{LWR@parcolumns@started}%
38     {%
39     }%
40     \LWR@htmldivclass{parcolumns}%
41     \booltrue{LWR@parcolumns@started}%
42     }%
43 \ifboolexpr{%
44     bool {LWR@parcolumns@rule} and
45     test {%
46         \ifnumgreater
47             {\value{LWR@parcolumns@thiscol}}
48             {1}
49     }%
50 }%
51     {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52     {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54     width:\arabic{LWR@parcolumns@width}\% ; % space
55     padding: .5ex 1\% ; % space
56     \LWR@tempone%
57 ]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64     \whileboolexpr{%
65         test {%
66             \ifnumcomp%
67                 {\value{LWR@parcolumns@thiscol}}
68                 {<}
69                 {#1}%
70         }%
71     }{%
72         \LWR@parcolumns@onecol{}%
73     }%
74     \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78     \ifbool{LWR@parcolumns@started}%
79     {%
80         \LWR@htmldivclassend{div}%
81         \boolfalse{LWR@parcolumns@started}%
82     }%
83     {%
84     \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

File 358 **lwarp-parnotes.sty**

§ 467 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

parnotes (*Pkg*) parnotes is supported with some patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]

```

2 \long\def\PN@parnote@real#1#2{%
3   \parnotemark{#1}%
4   % Unless this is the first parnote in \PN@text, add a separator first
5   \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6   % Redefine \@currentlabel to the parnote label, so \label works
7   \g@addto@macro\PN@text{%
8%     \phantomsection%
9     \def\@currentlabel{#1}%
10    \def\cref@currentlabel{%          lwarp
11      [parnotemark][\arabic{parnotemark}][\theparnotemark%
12      ]%
13    }%
14    \g@addto@macro\PN@text{%
15      \LWR@textcurrentfont{%          lwarp
16        \parnotemark{#1}\nolinebreak\thinspace#2%
17      }%
18    }%
19 }
20
21 \def\PN@parnotes@real{%

22 \ifPN@inparnotes
23 \else

24   \LWR@stoppars%

```

Avoid nested paragraphs:

```

25   \addtocounter{LWR@spandepth}{1}%

26   % We call \par later, so this avoids recursion with \PN@parnotes@auto
27   \PN@inparnotesttrue
28%   \unless\ifvmode\par\fi
29   % Avoid page breaks between a paragraph and its parnotes
30%   \nopagebreak\addvspace{\parnotevskip}%
31   \begin{BlockClass}(note){footnotes}%          lwarp
32   \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

33   {%
34     \parnotefmt{\PN@text}%
35   }%
36   \leavevmode\LWR@orignewline%

```

```

37   \end{BlockClass}%                               lwarp

38   \leavevmode\LWR@orignewline%
39   \global\def\PN@text{}%
40   %
41   % These can be enabled or disabled by package options
42   %
43   \PN@disable@indent
44   \PN@reset@optional
45   \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

46   \addtocounter{LWR@spandepth}{-1}%
47   \fi
48 }

49 \newbool{LWR@parnotes@doingauto}
50 \boolfalse{LWR@parnotes@doingauto}

51 \def\PN@parnotes@auto{%
52   \ifbool{LWR@parnotes@doingauto}{
53     \ifx\@currenvir\@PN@autopn
54       \unless\ifPN@inparnotes
55         \unless\ifx\PN@text\@empty
56           \expandafter\PN@parnotes@real
57         \fi
58       \fi
59     \fi
60   }{}%
61 }

```

Replace original logic due to the use of new L<sup>A</sup>T<sub>E</sub>X paragraph hook handling:

```

62 \renewenvironment{autopn}%
63   {\booltrue{LWR@parnotes@doingauto}}
64   {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

65 \AtBeginDocument{
66   \ifdef{\crefname}{
67     \crefname{parnotemark}{paragraph note}{paragraph notes}
68     \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
69   }{}
70 }

```

To nullify the footnotes where necessary:

```

71 \apptocmd{\LWR@nullifyfootnotes}{%
72   \renewcommand{\parnote}[2][{}]{}%
73   \renewcommand{\parnotemark}[1]{}%
74 }{}{}

```

For MATHJAX:

```

75 \begin{warpMathJax}

```

```

76 \providecommand{\parnotename}{parnote}
77 \appto\LWR@syncnotenumbers{%
78   \addtocounter{parnotemark}{-1}% specific to parnotes
79   \LWR@synconenotenummer{LWRparnote}{\theparnotemark}%
80   \addtocounter{parnotemark}{1}% specific to parnotes
81 }
82 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
83 \CustomizeMathJax{\def\LWRparnote{1}}
84 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{{}^{\mathrm{#1}}}}
85 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{{}^{\mathrm{#1}}}}
86 \end{warpMathJax}

```

---

File 359 **lwarp-parskip.sty**

§ 468 Package **parskip**

parskip (*Pkg*) parskip is ignored.

**for HTML output:** Discard all options for lwarp-parskip.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 360 **lwarp-pbalance.sty**

§ 469 Package **pbalance**

pbalance (*Pkg*) pbalance is ignored.

**for HTML output:**

```

1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2022/07/28]

4 \newcommand\shrinkLastPage[1]{}
5 \newcommand\balancePageNum[1]{}
6 \newcommand\nopbalance{}

```

---

File 361 **lwarp-pbox.sty**

§ 470 Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

pbox (*Pkg*) pbox is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6

```

```

7 \newcommand{\settoinwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }

```

---

File 362 **lwarp-pdfcol.sty**

§ 471 Package **pdfcol**

pdfcol (*Pkg*) pdfcol is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7   \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%

```

---

File 363 **lwarp-pdfcolfoot.sty**

§ 472 Package **pdfcolfoot**

pdfcolfoot (*Pkg*) pdfcolfoot is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*\pdfcolfoot@switch{}
4
5 \newcommand*\pdfcolfoot@current{}

```

---

File 364 **lwarp-pdfcolmk.sty**

§ 473 Package **pdfcolmk**

pdfcolmk (*Pkg*) pdfcolmk is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

```



File 365 **lwarp-pdfcolparallel.sty**§ 474 Package **pdfcolparallel**

pdfcolparallel (*Pkg*) pdfcolparallel is ignored.

**for HTML output:**

```
1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}
```

Pass options to parallel:

```
4 \DeclareOption*{%
5   \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }
```

Process the options:

```
7 \LWR@ProvidesPackageDropB
```

Require parallel with the given options:

```
8 \RequirePackage{parallel}[2003/04/13]
```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}

```

File 366 **lwarp-pdfcolparcolumns.sty**§ 475 Package **pdfcolparcolumns**

pdfcolparcolumns (*Pkg*) pdfcolparcolumns is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}
```

Pass options to parcolumns:

```
2 \DeclareOption*{%
3   \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}

```

---

File 367 **lwarp-pdfcomment.sty**

§ 476 Package **pdfcomment**

pdfcomment (*Pkg*) pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{ }
3 \newcommand{\pdfcomment}[2][{}]{ }
4 \newcommand{\pdfmargincomment}[2][{}]{ }
5 \newcommand{\pdfmarkupcomment}[3][]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]{ }
7 \newcommand{\pdfsquarecomment}[2][{}]{ }
8 \newcommand{\pdfcirclecomment}[2][{}]{ }
9 \newcommand{\pdflinecomment}[2][{}]{ }
10 \newcommand{\pdftooltip}[3][]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]{ }
12 \newcommand{\listofpdfcomments}[1][{}]{ }
13 \newcommand{\setliststyle}[1][{}]{ }
14 \newcommand{\defineliststyle}[2][{}]{ }
15 \newcommand{\defineavatar}[2][{}]{ }
16 \newcommand{\definestyle}[2][{}]{ }

```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][]{#2}}
20 \end{warpMathJax}

```

---

File 368 **lwarp-pdfcrypt.sty**

§ 477 Package **pdfcrypt**

pdfcrypt (*Pkg*) pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*\pdfcryptsetup}[1][{}]{ }

```

---

File 369 **lwarp-pdflscope.sty**

§ 478 Package **pdflscope**

pdflscope (*Pkg*) pdflscope is ignored.

**for HTML output:** Discard all options for `lwarp-pdflandscape`:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}[2019/12/05]
2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}
```

---

File 370 **lwarp-pdfmarginpar.sty**

§ 479 Package **pdfmarginpar**

`pdfmarginpar` (*Pkg*) `pdfmarginpar` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]
2 \newcommand{\pdfmarginpar}[2][{}]{
3 \newcommand{\pdfmarginparset}[1]{}
```

---

File 371 **lwarp-pdfpages.sty**

§ 480 Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

`pdfpages` (*Pkg*) `pdfpages` is patched for use by `lwarp`.

Option `link` and `linkname` work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}[2022-10-09]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{
3 \define@key{pdfpages}{landscape}[false]{
4 \define@key{pdfpages}{openright}[false]{
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{
8 \define@key{pdfpages}{rotateoversize}[false]{
9 \define@key{pdfpages}{doublepages}[false]{
10 \define@key{pdfpages}{doublepagetwist}[false]{
11 \define@key{pdfpages}{doublepagetwistodd}[false]{
12 \define@key{pdfpages}{doublepagetwist*}[false]{
13 \define@key{pdfpages}{doublepagetwistodd*}[false]{
```

```

14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of eso-pic:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage

At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the link option was specified, add a hyper target:

```

36   \ifAM@link%
37     \hypertarget{\AM@linkname.\AM@page}{}%
38   \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39   \begingroup%
40     \setlength{\unitlength}{1in}%
41     \begin{picture}(8,10.5)%
42       \ESO@HookIIBG%
43     \end{picture}%
44   \endgroup%
45   \global\let\ESO@HookIIBG@empty%
46 }
47 }

```

\AM@output

Patched to use \LWR@esopic@newpage.

```

48 \xpatchcmd{\AM@output@i}
49   {\newpage}
50   {\LWR@esopic@newpage}
51   {}
52   {\LWR@patcherror{pdfpages}{AM@output-1}}
53

```

```

54 \xpatchcmd{\AM@output@i}
55   {\newpage}
56   {\LWR@esopic@newpage}
57   {}
58   {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output@i}
61   {\newpage}
62   {\LWR@esopic@newpage}
63   {}
64   {\LWR@patcherror{pdfpages}{AM@output-3}}

```

`\includepdf`

Patched to set the user's paper size.

```

65 \xpretocmd{\includepdf}{%
66   \begingroup%
67   \setlength{\paperwidth}{\LWR@userspaperwidth}%
68   \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%
72   \endgroup%
73 }{}{}

```

`\includepdfmerge`

Patched to set the user's paper size.

```

74 \xpretocmd{\includepdfmerge}{%
75   \begingroup%
76   \setlength{\paperwidth}{\LWR@userspaperwidth}%
77   \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{}
79
80 \xapptocmd{\includepdfmerge}{%
81   \endgroup%
82 }{}{}

```

`\AM@hyper@begin@i`Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
83 \renewcommand{\AM@hyper@begin@i}{}

```

---

File 372 **lwarp-pdfprivacy.sty**

§ 481 Package **pdfprivacy**

`pdfprivacy (Pkg)` pdfprivacy is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]`

---

File 373 **lwarp-pdfrender.sty**

§ 482 Package **pdfrender**

`pdfrender (Pkg)` pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with `xfakebold`, and it is enabled during HTML so that

it may be in use when an SVG math image is started. I.e. `xfakebold`'s `\setBold` may be used outside of a math expression and still be detected when the math begins.

The `lwarp-pdfrender` package is present because it used to disable `pdfrender`, so this newer version is to overwrite older versions.

**for HTML output:** `1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]`

File 374 **lwarp-pdftosync.sty**

§ 483 Package **pdftosync**

*(Emulates or patches code by J. LAURENS.)*

`pdftosync (Pkg)` `pdftosync` is ignored.

**for HTML output:** Discard all options for `lwarp-pdftosync`:

`1 \LWR@ProvidesPackageDrop{pdftosync}[2008/01/26]`


```
2 \newcommand*\pdftosync{}
3 \newcommand*\pdftosyncstart{}
4 \newcommand*\pdftosyncstop{}
```

File 375 **lwarp-pdftricks.sty**

§ 484 Package **pdftricks**

*(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)*

`pdftricks (Pkg)` `pdftricks` is patched for use by `lwarp`.

 **convert image files** The `pdftricks` image files `<jobname>-fig*.pdf` must be converted to `.svg`, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ `lwarpmk pdftosvg <jobname>-fig*.pdf`

**for HTML output:** `1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]`

Reuse the print-mode images:

```
2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}
```

If the `.pdf` images have not yet been converted to `.svg` then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{%
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
```

```

9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}

```

---

File 376 **lwarp-pdfx.sty**

§ 485 Package **pdfx**

pdfx (*Pkg*) pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 377 **lwarp-perpage.sty**

§ 486 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

perpage (*Pkg*) **perpage** is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines `\the<countername>` to include `\theperpage`, it is necessary to place that redefinition inside a `warpprint` environment to avoid modifying the HTML definitions.

`\AddAbsoluteCounter` must not be inside `warpprint`, as the counter must be added for HTML also, although it is not incremented.

[footnote numbering](#) To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
```

— or —

```
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

```

2 \newcommand\AddAbsoluteCounter[1]
3 {
4   \@ifundefined{c@abs#1}{%
5     \expandafter\newcount\csname c@abs#1\endcsname
6     \global\value{abs#1}\@ne
7   }{\global\expandafter\let\csname c@abs#1\endcsname\@empty
8     \expandafter\xdef\csname theabs#1\endcsname{%
9       \noexpand\number \csname c@abs#1\endcsname

```

```

10      }%
11 %      \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 %      \stepcounter{abs#1}%
13 %      \pp@cl@end}%
14 %      \@addtoreset{pabs@#1}{#1}
15    }
16    {}
17  }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23   \ifltxcounter{#2Reset}{%
24     \setcounter{#2Reset}{#1}%
25   }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33   \ifltxcounter{#2Reset}{%
34     \setcounter{#2Reset}{#1}%
35   }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}


```

---

File 378 **lwarp-pfnote.sty**

§ 487 Package **pfnote**

pfnote (*Pkg*) pfnote is ignored.

 **pfnote numbers** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 379 **lwarp-phfqit.sty**

§ 488 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

phfqit (*Pkg*) phfqit is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

2 \LetLtxMacro\LWR@origbitstring\bitstring



```

3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6   text-decoration: overline underline ;
7 ]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }

```

---

File 380 **lwarp-physicst.sty**

§ 489 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

physics (*Pkg*) **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 physics extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

```

2 \begin{warpMathJax}
3 \PackageNoteNoLine[lwarp, physics]{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}

```

---

File 381 **lwarp-physunits.sty**

§ 490 Package **physunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

physunits (*Pkg*) **physunits** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][ ]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][ ]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][ ]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][ ]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][ ]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][ ]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][ ]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][ ]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][ ]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][ ]{\, \mathrm{#1eV}}}

```

```

17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][ ]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][ ]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][ ]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][ ]{\, \mathrm{#1W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][ ]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][ ]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][ ]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][ ]{\, \mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][ ]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][ ]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][ ]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][ ]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][ ]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][ ]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][ ]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftps}{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][ ]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][ ]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celsius}{\, \mathrm{^{\circ}C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, \mathrm{^{\circ}R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, \mathrm{^{\circ}F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][ ]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][ ]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}

```

```

77 \CustomizeMathJax{\newcommand{\Pa}[1][ ]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][ ]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][ ]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 382 **lwarp-picinpar.sty**

§ 491 Package **picinpar**

*(Emulates or patches code by FRIEDHELM SOWA.)*

picinpar (*Pkg*) picinpar is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3   \if #2r%
4     \begin{BlockClass}[float:right](note){marginblock}%
5   \else%
6     \begin{BlockClass}[float:left](note){marginblock}%
7   \fi%
8   #3\par%
9   #4%
10  \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17   \begin{BlockClass}{framebox}
18   \expandafter\box\csname #1box\endcsname%
19   \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23   \begin{BlockClass}{framebox}
24   \expandafter\box\csname #1box\endcsname%
25   \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@@makewincaption#1#2{%

```

```

29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, `figwindow` and `tabwindow` must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35     \advance\c@figure -1
36     \window[#1,#2,{#3},{\def\@capttype{figure}%
37         \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43     \advance\c@table -1
44     \window[#1,#2,{#3},{\def\@capttype{table}%
45         \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48     \StartDefiningTabulars%
49     \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53     \endwindow%
54     \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 383 **lwarp-pifont.sty**

§ 492 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

`pifont` (*Pkg*) `pifont` is patched for use by `lwarp`.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3     \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4     {\Pifont{#1}\char#2}%
5     \end{lateximage}%
6 }
7

```

---

```

8 \newcommand{\LWR@HTML@Pifill}[2]{
9   \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14   \par\noindent\hspace*{0.5in}
15   \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }
17 \LWR@formatted{Piline}

```

---

File 384 **lwarp-pinlabel.sty**

§ 493 Package **pinlabel**

*(Emulates or patches code by COLIN ROURKE.)*

pinlabel (*Pkg*) **pinlabel** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```

2 \xpretocmd{\psfig}
3   {\begin{lateximage}[-pinlabel--\PackageDiagramAltText]}
4   {}
5   {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{pinlabel}{psfigB}}

```

---

File 385 **lwarp-placeins.sty**

§ 494 Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

placeins (*Pkg*) **placeins** is ignored.

Discard all options for lwarp-placeins:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```

2 \newcommand*{\FloatBarrier}{}

```

---

File 386 **lwarp-plarydshln.sty**

§ 495 Package **plarydshln**

plarydshln (*Pkg*) **plarydshln** is emulated by lwarp-arydshln.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

---

```
2 \LWR@origRequirePackage{lwarp-arydshln}
```

---

File 387 **lwarp-plext.sty**

§ 496 Package **plext**

plext (*Pkg*) **plext** is preloaded by **jtarticle** and related classes.

**for HTML output:**

```
1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

Add the optional <t/y> direction:

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
21   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22   {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
25 {
26   \LWR@traceinfo{parbox of width #4}%
27   \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }
```

picture, as modified by pext, is encapsulated by the lwarp core.

---

File 388 **lwarp-plextarydshln.sty**

§ 497 Package **plextarydshln**

plextarydshln (*Pkg*) plextarydshln is emulated by lwarp-arydshln.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]  
2 \LWR@origRequirePackage{lwarp-arydshln}

---

File 389 **lwarp-plextcolortbl.sty**

§ 498 Package **plextcolortbl**

plextcolortbl (*Pkg*) plextcolortbl is emulated by lwarp-colortbl.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]  
2 \LWR@origRequirePackage{lwarp-colortbl}

---

File 390 **lwarp-plimsoll.sty**

§ 499 Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

plimsoll (*Pkg*) plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]  
2 \begin{warpMathJax}  
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}  
4  
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}  
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}  
7  
8 \ifdefstring{\stst}{^{\circ}}  
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}  
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}  
11 \end{warpMathJax}

---

File 391 **lwarp-prelim2e.sty**

§ 500 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

prelim2e (*Pkg*)    **prelim2e** is ignored.

**for HTML output:** Discard all options for **lwarp-prelim2e**:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]

2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 392    **lwarp-prettyref.sty**

§ 501    Package    **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

prettyref (*Pkg*)    **prettyref** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

```
2 \newreformat{fig}{Figure \ref{#1}}
3 \newreformat{tab}{Table \ref{#1}}

```

---

File 393    **lwarp-preview.sty**

§ 502    Package    **preview**

preview (*Pkg*)    **preview** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

```
2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2][{}]{
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting

```

---

File 394    **lwarp-psfrag.sty**

§ 503    Package    **psfrag**

*(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)*

psfrag (*Pkg*)    **psfrag** is patched for use by **lwarp**.

 **use psfrags** The **psfrags** environment is modified to use `lateximage` to encapsulate the image. Always use a **psfrags** environment to contain any local `\psfrag` macros and the



associated `\includegraphics` or `\epsfig` calls. Outside of a `psfrags` environment, `psfrags` adjustments will not be seen by `lwarp`.



Tip: Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A `lateximage` captures the modified image from the document.

```
2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{lateximage}[-psfrags-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}
```

File 395 **lwarp-psfragx.sty**

§ 504 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

`psfragx` (*Pkg*) `psfragx` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A `lateximage` captures the modified image from the document.

```
2 \def\pfx@includegraphicx#1#2{%
3   \begin{lateximage}[-psfragx-~\PackageDiagramAltText]%
4   \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5   \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9   \begin{lateximage}[-psfragx-~\PackageDiagramAltText]%
10  \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14   \endpfx@overpix%
15   \end{lateximage}%
16 }
```

File 396 **lwarp-pst-eps.sty**

§ 505 Package **pst-eps**

(Emulates or patches code by HERBERT VOSS.)

`pst-eps` (*Pkg*) `pst-eps` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```
2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][[]{}]
```

---

File 397 **lwarp-pstool.sty**

§ 506 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

pstool (*Pkg*) **pstool** is patched for use by **lwarp**.

`\graphicspath` is ignored, and the file directory must be stated.

⚠ **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```

2 \renewcommand\pstool@alwaysprocess[3][]{%
3   \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
4     \includegraphics{#2.pdf}%
5   \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11   \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
12     \includegraphics{#2.pdf}%
13   \end{lateximage}%
14 }
```

---

File 398 **lwarp-pstricks.sty**

§ 507 Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

pstricks (*Pkg*) **pstricks** is patched for use by **lwarp**.

⚠ **use pspicture** All **pstricks** content should be contained inside a **pspicture** environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

```

2 \BeforeBeginEnvironment{pspicture}{%
```

---

```

3   \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8   \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}

```

---

File 399 **lwarp-pxatbegshi.sty**

§ 508 Package **pxatbegshi**

pxatbegshi (*Pkg*) pxatbegshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{lwarp-atbegshi}

---

File 400 **lwarp-pxeveryshi.sty**

§ 509 Package **pxeveryshi**

pxeveryshi (*Pkg*) pxeveryshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 401 **lwarp-pxfonts.sty**

§ 510 Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

pxfonts (*Pkg*) pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

```

---

File 402 **lwarp-pxftnright.sty**

§ 511 Package **pxftnright**

pxftnright (*Pkg*) pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

2 \LWR@origRequirePackage{lwarp-ftnright}

---

File 403 **lwarp-pxjahyper.sty**

§ 512 Package **pxjahyper**

pxjahyper (*Pkg*) pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 404 **lwarp-quotchap.sty**

§ 513 Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

quotchap (*Pkg*) quotchap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23   \LWR@stoppars%
24   \begin{BlockClass}{qauthor}%
25   {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{%
30 \providecommand*\quotefont{}}
31 \providecommand*\qauthorfont{}
```

File 405 **lwarp-quoting.sty**

§ 514 Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

quoting (*Pkg*) quoting is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \xpatchcmd{\quoting}{\quo@begintext}
3   {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4   {}
5   {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8   {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9   {}
10  {\LWR@patcherror{quoting}{endquoting}}
```

File 406 **lwarp-ragged2e.sty**

§ 515 Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

ragged2e (*Pkg*) **ragged2e** is emulated.

Discard all options for **lwarp-ragged2e**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

```

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

---

File 407 **lwarp-realscripts.sty**

§ 516 Package **realscripts**

(*Emulates or patches code by WILL ROBERTSON.*)

realscripts (*Pkg*) **realscripts** is emulated. See **lwarp.css** for the `<span>` of class `supsubscript`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

```

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
5   \LWR@HTML@textsubscript{#1}
6 }
7
8 \LWR@formatted{realsubscript}
9
10
11 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
12   \LWR@HTML@textsuperscript{#1}
13 }
14
15 \LWR@formatted{realsuperscript}
16
17
18 \ExplSyntaxOff
19

```

```

20
21 \newcommand*\LWR@realscriptsalign{}
22
23 \newcommand*\LWR@setrealscriptsalign[1]{%
24   \renewcommand*\LWR@realscriptsalign{}%
25   \ifthenelse{\equal{#1}{c}}{%
26     \renewcommand*\LWR@realscriptsalign{%
27       \LWR@print@embox{text-align:center} ; %
28     }%
29   }{}%
30   \ifthenelse{\equal{#1}{r}}{%
31     \renewcommand*\LWR@realscriptsalign{%
32       \LWR@print@embox{text-align:right} ; %
33     }%
34   }{}%
35 }
36
37 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
38   \LWR@setrealscriptsalign{#2}%
39   \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
40     \textsuperscript{#4}\textsubscript{#3}%
41   }%
42 }
43 \LWR@formatted{textsubsuperscript}
44
45 \FilenameNullify{%
46   \RenewDocumentCommand{\textsuperscript}{s m}{}%
47   \RenewDocumentCommand{\textsubscript}{s m}{}%
48   \renewcommand{\fakesubscript}[1]{}%
49   \renewcommand{\fakesuperscript}[1]{}%
50   \renewcommand{\realsubscript}[1]{}%
51   \renewcommand{\realsuperscript}[1]{}%
52   \renewcommand{\textsubsuperscript}[2]{}%
53   \renewcommand{\textsupersubscript}[2]{}%
54 }

```

---

File 408 **lwarp-refcheck.sty**

§ 517 Package **refcheck**

refcheck (*Pkg*) refcheck is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbid{}
9 \def\ignoreunlbid{}
10 \newcommand*\refcheckxrdoc}[2][{}]{

```

File 409 **lwarp-register.sty**

§ 518 Package **register**

*(Emulates or patches code by MATTHEW LOVELL.)*

register (*Pkg*) **register** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

```

2 \xpatchcmd{\register}
3   {\centering}
4   {%
5     \begin{center}%
6     \begin{lateximage}[-register-~\PackageDiagramAltText]%
7   }
8   {}
9   {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12   {\leftskip}
13   {%
14     \end{lateximage}\end{center}%
15     \leftskip%
16   }%
17   {}
18   {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21   {%
22     \begin{center}%
23     \begin{lateximage}[-register-~\PackageDiagramAltText]%
24   }
25   {}
26   {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29   {\leftskip}
30   {%
31     \end{lateximage}\end{center}%
32     \leftskip%
33   }%
34   {}
35   {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

File 410 **lwarp-relsz.sty**

§ 519 Package **relsize**

*(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)*




`relsize` (*Pkg*) `relsize` is patched for use by `lwarp`, and emulated for `MATHJAX`.

For `HTML`, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating `SVG` math for `HTML`, the original definitions are temporarily restored, and so should work as expected.

 **not small** The `HTML` browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]
2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*{\relsize}[1]{%
23 \renewcommand*{\larger}[1][1]{%
24 \renewcommand*{\smaller}[1][1]{%
25 \renewcommand*{\relscale}[1]{%
26
27 \renewcommand*{\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2][1]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

For `MATHJAX`:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}

```

---


```
44 \end{warpMathJax}
```

---

File 411 **lwarp-repeatindex.sty**

§ 520 Package **repeatindex**

`repeatindex` (*Pkg*) `repeatindex` is emulated for `lwarp`.

 **style file** `lwarp` must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp_repeatindex}]{lwarp}
```

where `lwarp_repeatindex.ist` may be copied from the following modified version of `lwarp.ist`:

```
preamble
"\begin{theindex}
  \providecommand*\lettergroupDefault[1]{}
  \providecommand*\lettergroup[1]{%
    \par\textbf{#1}\par
    \nopagebreak
  }
"
headings_flag 1
heading_prefix "
  \lettergroup{"
heading_suffix ""
delim_0 "], \hyperindexref{"
delim_1 " ", \hyperindexref{"
delim_2 " ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t ""

item_0 "\n \item ["
```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** `1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]`

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

---

File 412 **lwarp-repltext.sty**

§ 521 Package **repltext**

`repltext` (*Pkg*) `repltext` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*\prevrepl{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

File 413 **lwarp-resizegather.sty**

§ 522 Package **resizegather**

resizegather (*Pkg*) **resizegather** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*\resizegathersetup}[1]{}

```

File 414 **lwarp-returntogrid.sty**

§ 523 Package **returntogrid**

returntogrid (*Pkg*) **returntogrid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

```
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}


```

File 415 **lwarp-rlepsz.sty**

§ 524 Package **rlepsz**

*(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)*

rlepsz (*Pkg*) **rlepsz** is patched for use by lwarp.

 **Rename the style file!** The file rlepsz.tex must be copied to rlepsz.sty for lwarp to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepsz}% No date given.

```
2 \xpretocmd{\relabelbox}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{rlepsz}{relabelbox}}
```

```

6
7 \xapptocmd{\endrelabelbox}
8   {\end{Lateximage}}
9   {}
10  {\LWR@patcherror{rlepsf}{endrelabelbox}}

```

---

File 416 **lwarp-rmathbr.sty**

§ 525 Package **rmathbr**

*(Emulates or patches code by DENIS RYABOV.)*

rmathbr (*Pkg*) **rmathbr** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

```

---

File 417 **lwarp-rmpage.sty**

§ 526 Package **rmpage**

rmpage (*Pkg*) **rmpage** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 418 **lwarp-romanbar.sty**

§ 527 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

romanbar (*Pkg*) **romanbar** is patched for use by lwarp.

An inline class with an overline and underline is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4   text-decoration: overline underline ;
5 ]{romanbar}{#1}%
6 }

```

---

File 419 **lwarp-romanbarpagenumber.sty**

§ 528 Package **romanbarpagenumber**

romanbarpagenumber (*Pkg*) romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 420 **lwarp-rotating.sty**

§ 529 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

rotating (*Pkg*) rotating is emulated.

All rotations are ignored in HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]  
 2 \RequirePackage{graphicx}  
 3 \LetLtxMacro\LWR@HTML@sidewaystable\table  
 4 \let\endLWR@HTML@sidewaystable\endtable  
 5 \LWR@formattedenv{sidewaystable}  
 6  
 7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure  
 8 \let\endLWR@HTML@sidewaysfigure\endfigure  
 9 \LWR@formattedenv{sidewaysfigure}  
 10  
 11 \newenvironment\*{LWR@HTML@sideways}{}{}  
 12 \LWR@formattedenv{sideways}  
 13  
 14 \newenvironment\*{LWR@HTML@turn}[1]{}{}  
 15 \LWR@formattedenv{turn}  
 16  
 17 \newenvironment\*{LWR@HTML@rotate}[1]{}{}  
 18 \LWR@formattedenv{rotate}  
 19  
 20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}  
 21 \LWR@formatted{turnbox}  
 22  
 23 \let\LWR@HTML@rotcaption\caption  
 24 \LWR@formatted{rotcaption}  
 25  
 26 \let\LWR@HTML@makerotcaption@makecaption  
 27 \LWR@formatted{@makerotcaption}

---

File 421 **lwarp-rotfloat.sty**

§ 530 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

rotfloat (*Pkg*) rotfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8   \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11   \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }

```

---

File 422 **lwarp-rviewport.sty**

§ 531 Package **rviewport**

rviewport (*Pkg*) rviewport is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]  
2 \define@key{igraph}{rviewport}{}  

---

File 423 **lwarp-savetrees.sty**

§ 532 Package **savetrees**

`savetrees` (*Pkg*) `savetrees` is ignored.

**for HTML output:** Discard all options for `lwarp-savetrees`:

1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]  

---

File 424 **lwarp-scalefnt.sty**

§ 533 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

`scalefnt` (*Pkg*) `scalefnt` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scalefnt}  
2 \DeclareRobustCommand\scalefont[1]{}  

---

File 425 **lwarp-scalerel.sty**

§ 534 Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

`scalerel` (*Pkg*) `scalerel` is used as-is for SVG math, and is emulated and ignored for `MATHJAX`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For `MATHJAX`:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
```

```

12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

---

File 426 **lwarp-schemata.sty**

§ 535 Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

schemata (*Pkg*) schemata is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6   \begin{lateximage}[-schemata~\PackageDiagramAltText]%
7   \LWR@print@normalsize%
8   \LWR@schemata@origschema[\#1]{\#2}{\#3}%
9   \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13   \begin{lateximage}[-schemata~\PackageDiagramAltText]%
14   \LWR@print@normalsize%
15   \LWR@schemata@origSchema[\#1]{\#2}{\#3}{\#4}{\#5}%
16   \end{lateximage}%
17 }

```

---

File 427 **lwarp-scrextend.sty**

§ 536 Package **scrextend**

scrextend (*Pkg*) scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]



```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

### Title page:

```

18 \AtBeginDocument{
19   \let\LWR@koma@orig@maketitle\maketitle
20   \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*\@maketitle{}
24 \renewrobustcmd{\@maketitle}{%
25   \ifdefvoid{\@titlehead}{}{%
26     \begin{BlockClass}{titlehead}%
27     \@titlehead%
28     \end{BlockClass}%
29   }%
30   \ifdefvoid{\@subject}{}{%
31     \begin{BlockClass}{subject}%
32     \@subject%
33     \end{BlockClass}%
34   }%
35   \LWR@stoppars%
36   \LWR@htmltag{\LWR@tagtitle}%
37   \@title%
38   \LWR@htmltag{\LWR@tagtitleend}%
39   \ifdefvoid{\@subtitle}{}{%
40     \begin{BlockClass}{subtitle}%
41     \@subtitle%
42     \end{BlockClass}%
43   }%
44   \LWR@startpars%
45   \begin{BlockClass}{author}%

46   \renewcommand*\cr{}%
47   \renewcommand*\crcr{}%
48   \renewcommand*\noalign{}%

49   \renewcommand{\and}{%
50     \end{BlockClass}%
51     \begin{BlockClass}{oneauthor}%
52   }%
53   \begin{BlockClass}{oneauthor}%
54     \@author%
55   \end{BlockClass}%

```

```

56   \end{BlockClass}%
57   \begin{BlockClass}{titledate}%
58   \@date%
59   \end{BlockClass}%
60   \ifdefvoid{\@published}{}{%
61     \begin{BlockClass}{published}%
62     \@published%
63     \end{BlockClass}%
64   }%
65 }
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}
70 \DeclareDocumentCommand{\frontispiece}{m}{}
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}
83 \DeclareDocumentCommand{\lowertitleback}{m}{}
84 \DeclareDocumentCommand{\dedication}{m}{}
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpaper}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddpaperusingstyle}{m}{}
94 \DeclareDocumentCommand{\cleardoubleoddpaperemptypage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpaperplainpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddpaperstandardpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpaper}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenpaperusingstyle}{m}{}
99 \DeclareDocumentCommand{\cleardoubleevenpaperemptypage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpaperplainpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenpaperstandardpage}{}{}
102
103 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}%
104 \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
105 }
106
107 \DeclareDocumentCommand{\multfootsep}{}{, }
108
109 \DeclareDocumentCommand{\footref}{m}{%
110   \begingroup
111     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
112   \endgroup
113   \@footnotemark
114 }
115

```

```

116 \DeclareDocumentCommand{\deffootnote}{o m m m}{ }
117 \DeclareDocumentCommand{\deffootnotemark}{m}{ }
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{ }
119 \DeclareDocumentCommand{\raggedfootnote}{ }{ }

120 \DeclareDocumentCommand{\dictum}{o m}{
121 \begin{LWR@BlockClassWP}{\LWR@print@embox{text-align:right}}{ }\dictum}
122 #2
123 \IfValueT{#1}
124 {
125 \LWR@stoppars%
126 \ifbool{FormatWP}
127 {\begin{BlockClass}[\LWR@print@embox{border-top: } 1px solid gray]{dictumauthor}}
128 {\begin{BlockClass}{dictumauthor}}
129 \dictumauthorformat{#1}
130 \end{BlockClass}
131 }
132 \end{LWR@BlockClassWP}
133 }
134
135 \DeclareDocumentCommand{\dictumwidth}{ }{ }
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
137 \DeclareDocumentCommand{\dictumrule}{ }{ }
138 \DeclareDocumentCommand{\raggeddictum}{ }{ }
139 \DeclareDocumentCommand{\raggeddictumtext}{ }{ }
140 \DeclareDocumentCommand{\raggeddictumauthor}{ }{ }
141
142 \DeclareDocumentEnvironment{labeling}{o m}
143 {%
144 \def\sc@septext{#1}%
145 \list{ }{ }%
146 \let\makelabel\labelinglabel%
147 }
148 {
149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \quad \sc@septext%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{ } m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166 \begin{BlockClass}[
167 \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
168 \LWR@print@embox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169 ]{addmargin}
170 }
171 {
172 \setlength{\LWR@templengthone}{#2}

```

```

173 \begin{BlockClass}[
174     \LWR@print@box{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175     \LWR@print@box{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176 ]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpn {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 428 **lwarp-scrhack.sty**

§ 537 Package **scrhack**

scrhack (*Pkg*) scrhack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

File 429 **lwarp-scrlayer.sty**

§ 538 Package **scrlayer**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer (*Pkg*) scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*\DeclareSectionNumberDepth[2]{}
3 \newcommand*\DeclareLayer[2]{}
4 \newcommand*\DeclareNewLayer[2]{}
5 \newcommand*\ProvideLayer[2]{}
6 \newcommand*\RedeclareLayer[2]{}
7 \newcommand*\ModifyLayer[2]{}
8 \newcommand*\Layerhalign{}
9 \newcommand*\Layervalign{}
10 \newcommand*\Layerxoffset{}
11 \newcommand*\Layeryoffset{}
12 \newcommand*\Layerwidth{}
13 \newcommand*\Layerheight{}
14 \providecommand*\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*\putUL[1]{}

```

```

16 \newcommand*\putUR}[1]{}
17 \newcommand*\putLL}[1]{}
18 \newcommand*\putLR}[1]{}
19 \newcommand*\putC}[1]{}
20 \newcommand*\GetLayerContents}[1]{}
21 \newcommand*\IfLayerExists}[3]{#3}
22 \newcommand*\DestroyLayer}[1]{}
23 \newcommand*\layercontentsmeasure{}
24 \newcommand*\currentpagestyle{}
25 \newcommand*\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\DeclarePageStyleAlias}[2]{}
28 \newcommand*\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\ProvidePageStyleAlias}[2]{}
30 \newcommand*\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\DestroyPageStyleAlias}[1]{}
32 \newcommand*\GetRealPageStyle}[1]{}
33 \newcommand*\DeclarePageStyleByLayers}[3][[]]{}
34 \newcommand*\DeclareNewPageStyleByLayers}[3][[]]{}
35 \newcommand*\ProvidePageStyleByLayers}[3][[]]{}
36 \newcommand*\RedeclarePageStyleByLayers}[3][[]]{}
37 \NewDocumentCommand*\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\AddLayersToPageStyle}[2]{}
39 \newcommand*\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\DestroyRealLayerPageStyle}[1]{}
53 \@ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand*\automark}{s o m}{}
55 \DeclareDocumentCommand*\manualmark}{m}{}
56 \DeclareDocumentCommand*\MakeMarkcase}{m}{#1}

57 \newcommand*\partmarkformat}{}
58 \if@chapter
59 \newcommand*\chaptermarkformat}{}
60 \fi
61 \newcommand*\sectionmarkformat}{}
62 \DeclareDocumentCommand*\GenericMarkFormat}{m}{}

63 \newcommand*\@mkleft}[1]{}
64 \newcommand*\@mkright}[1]{}
65 \newcommand*\@mkdouble}[1]{}
66 \newcommand*\@mkboth}[2]{}
67 \newcommand*\scrLayerInitInterface}[1][[]]{}
68 \newcommand*\scrLayerAddToInterface}[3][[]]{}
69 \newcommand*\scrLayerAddCsToInterface}[3][[]]{}
70 \newcommand*\scrLayerOnAutoRemoveInterface}[2][[]]{}

```

---

File 430 **lwarp-scrlayer-notecolumn.sty**

§ 539 Package **scrlayer-notecolumn**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer-notecolumn (*Pkg*) scrlayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```

2 \newcommand*\DeclareNoteColumn}[2][{}]{
3 \newcommand*\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*\ProvideNoteColumn}[2][{}]{
5 \newcommand*\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*\syncwithnotecolumn}[1][{}]{
8 \newcommand*\syncwithnotecolumns}[1][{}]{
9 \newcommand*\clearnotecolumn}[1][{}]{
10 \newcommand*\clearnotecolumns}[1][{}]{

```

---

File 431 **lwarp-scrlayer-scrpage.sty**

§ 540 Package **scrlayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer-scrpage (*Pkg*) scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

```

```

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*{\defpairofpagestyles}[3][{}]{
28 \newcommand*{\newpairofpagestyles}[3][{}]{
29 \newcommand*{\renewpairofpagestyles}[3][{}]{
30 \newcommand*{\providepairofpagestyles}[3][{}]{

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
41 \newcommand*{\defpagestyle}[3]{
42 \newcommand*{\newpagestyle}[3]{
43 \newcommand*{\providepagestyle}[3]{
44 \newcommand*{\renewpagestyle}[3]{

```

---

File 432 **lwarp-scrpage2.sty**

§ 541 Package **scrpage2**

*(Emulates or patches code by MARKUS KOHM.)*

scrpage2 (*Pkg*) scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}

```

```

15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 433 **lwarp-section.sty**

§ 542 Package **section**

section (*Pkg*) **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsiZe{\huge}\else
4 \def\chsize{\huge}\def\hdsiZe{\Huge}
5 \fi
6 \let\ttsiZe\LARGE
7 \let\ausiZe\large
8 \let\dasize\large
9 \let\secsiZe\LARGE
10 \let\subsiZe\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase

```



```

21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 434 **lwarp-sectionbreak.sty**

§ 543 Package **sectionbreak**

*(Emulates or patches code by MICHAL HOFTICH.)*

`sectionbreak (Pkg)` `sectionbreak` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 435 **lwarp-sectsty.sty**

§ 544 Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

`sectsty (Pkg)` `sectsty` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*\partfont [1] {}
3 \newcommand*\partnumberfont [1] {}
4 \newcommand*\parttitlefont [1] {}
5 \newcommand*\chapterfont [1] {}
6 \newcommand*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}

```

```

10 \newcommand*\subsubsectionfont [1] {}
11 \newcommand*\paragraphfont [1] {}
12 \newcommand*\subparagraphfont [1] {}
13 \newcommand*\minisecfont [1] {}
14 \newcommand*\allsectionsfont[1] {}
15 \newcommand{\nohang}{}

```

`\sectionrule` is only to be used in `*font` commands, thus it is ignored.

```

16 \newcommand*\sectionrule[5]{}
17
18 \def\ulemheading#1#2{}

```

---

File 436 **lwarp-selectp.sty**

§ 545 Package **selectp**

`selectp (Pkg)` `selectp` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```
2 \newcommand*\outputonly[1]{}

```


---

File 437 **lwarp-semantic-markup.sty**

§ 546 Package **semantic-markup**

*(Emulates or patches code by ANDREW A. CASHNER.)*

`semantic-markup (Pkg)` `semantic-markup` is patched for use by `lwarp`.

 If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:** 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```

2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4   \let\footnote=\endnote
5   \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from `musicography` are used.

```

8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```

The `\musfig` is placed inside a hashed image, with a simple alt tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16   \LWR@subsingledollar*%
17     {#1/#2}% alt tag
18     {musfig}% addl' hashing
19     {% contents
20       \LWR@origensuredmath{%
21         \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22       }%
23     }%
24 }

```

The `\meter` is taken from musicography, and becomes a hashed image with a simple alt tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26   \musMeter{#1}{#2}%
27 }

```

---


File 438 **lwarp-seqsplit.sty**

§ 547 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

`seqsplit` (*Pkg*) `seqsplit` is patched for use by `lwarp`.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** `1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]`

Special handling because `lwarp` uses a box for SVG math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*{\seqsplit}[1]{%
6   \ifmmode%
7     \begin{LWR@print@minipage}{6in}%
8     \LWR@orig@seqsplit{#1}%
9     \end{LWR@print@minipage}%
10  \else%
11    \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12  \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15   \newcommand*\LWR@HTML@seqinsert}{%
16     \LWR@htmlcomment{ }%
17   }
18   \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

---

File 439 **lwarp-setspace.sty**

§ 548 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

setspace (*Pkg*) **setspace** is emulated.

Discard all options for **lwarp-setspace**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment*singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*spacing[1]{
24
25 }{
26
27 }
28
29 \newenvironment*onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }

```

```

34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}

```

---

File 440 **lwarp-shadethm.sty**

§ 549 Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

shadethm (*Pkg*) shadethm is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4   \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5   \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6   \begin{BlockClass}{%
7     background: \LWR@origpound\LWR@tempcolor ;
8     border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9   }{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 441 **lwarp-shadow.sty**

§ 550 Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

shadow (*Pkg*) shadow is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 442 **lwarp-shapepar.sty**

§ 551 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

shapepar (*Pkg*) shapepar is patched for use by lwarp. Shapes appear in print mode, as well as inside a latex image, but are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```
2 \newcommand*\LWR@HTML@shapepar}[2][]{}
```

```
3 \LWR@formatted{shapepar}
```

```
4
```

```
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

---

File 443 **lwarp-showidx.sty**

§ 552 Package **showidx**

showidx (*Pkg*) showidx is ignored.

**for HTML output:** Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \AtBeginDocument by the lwarp core.

---

File 444 **lwarp-showkeys.sty**

§ 553 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

showkeys (*Pkg*) showkeys is ignored.

**for HTML output:** Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 445 **lwarp-showlabels.sty**

§ 554 Package **showlabels**

showlabels (*Pkg*) showlabels is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]

```
2 \providecommand{\showlabelfont}{}
3 \providecommand{\showlabelsetlabel}[1]{}
4 \newcommand*\showlabels[2]{}
5 \newcommand*\showlabelrefline{}
6 \newcommand*\showlabelsinline{}

```

---

File 446 **lwarp-showtags.sty**

§ 555 Package **showtags**

`showtags (Pkg)` `showtags` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}

```

---

File 447 **lwarp-shuffle.sty**

§ 556 Package **shuffle**

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

`shuffle (Pkg)` `shuffle` is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]  
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

```
3 \newcommand*\LWR@shuffle@start}{%
4   \hspace*{.2em}
5   \begin{picture}(.75,0.65)
6   \setlength{\unitlength}{1em}
7   \put(0,0){\line(1,0){.75}}
8   \put(0,0){\line(0,1){.5}}
9   \put(.375,0){\line(0,1){.5}}
10  \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish}{%
14   \end{picture}
15   \hspace*{.75em}
16   \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle}{%
20   \LWR@shuffle@start%
21   \LWR@shuffle@finish%

```

```

22 }
23
24 \newcommand*{\cshuffle}{%
25   \LWR@shuffle@start%
26   \put(.05,.65){\line(1,0){.65}}%
27   \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32   \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

---

File 448 **lwarp-sidecap.sty**

§ 557 Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

sidecap (*Pkg*) sidecap is emulated.

**for HTML output:** Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>  
regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{Sctable}{soo}
3 {\IfValueTF{#3}{\table[#3]{}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {Sctable*} {\Sctable*}
8 \cs_new_eq:cN {endSctable*} \endSctable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]{}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```



File 449 **lwarp-sidenotes.sty**

§ 558 Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

sidenotes (*Pkg*) Patched for lwarp.

**for HTML output:** Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

\sidecaption

```
* [entry] [offset] {text}
2 \RenewDocumentCommand \sidecaption {s o o m}
3 {
4   \LWR@stoppars
5   \begingroup
6   \captionsetup{style=sidecaption}%
7   \IfBooleanTF{#1}
8   { % starred
9     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
10    \caption*{#4}%
11    \end{BlockClass}
12  }
13  { % unstarred
14    \IfNoValueOrEmptyTF{#2}
15    {\def\@sidenotes@sidecaption@tof{#4}}
16    {\def\@sidenotes@sidecaption@tof{#2}}
17    \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
18    \caption[\@sidenotes@sidecaption@tof]{#4}
19    \end{BlockClass}
20  }
21  \endgroup
22  \LWR@startpars
23 }
```

Borrowed from the lwarp version of keyfloat:

```
24 \NewDocumentEnvironment{KFLTsidefloat}{0{-1.2ex} m}
25 {% start
26   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{marginblock}%
27   \renewcommand*\@capttype{#2}%
28 }
29 {%
30   \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34 {\begin{KFLTsidefloat}{figure}}
35 {\end{KFLTsidefloat}}
```

```

36
37 \RenewDocumentEnvironment{margintable}{o}
38   {\begin{KFLTsidenotes@marginfloat}{table}}
39   {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the  $\LaTeX 2_{\epsilon}$  `article.cls` source:

```

40 \renewenvironment{figure*}
41     {\@dblfloat{figure}}
42     {\end@dblfloat}
43
44 \renewenvironment{table*}
45     {\@dblfloat{table}}
46     {\end@dblfloat}

```

For `MATHJAX`:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{sidenote}
49 \appto\LWR@syncnotenumbers{\LWR@synconotenummer{\LWR@sidenote}{\thesidenote}}
50 \appto\LWR@syncnotenames{\LWR@synconotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def\LWR@sidenote{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\mathrm{#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional `offset` argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWR@sidenote]{{}^{\mathrm{#1}}}}
```

File 450 **lwarp-simplebnf.sty**

§ 559 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

`simplebnf` (*Pkg*) `simplebnf` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{simplebnf}[2022/05/08]`

The entire object is placed inside a `lateximage` whose `alt` text is the  $\LaTeX$  source BNF expression.

```

2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { O{llcll} O{[^\\]|\\|[\^\\]} O{\\|\\|} +b }
5 {
6   \regex_gset:Nn \g_simplebnf_rhs_newline_r { #2 }
7   \regex_gset:Nn \g_simplebnf_rhs_nb_r { #3 }

```

```

8
9   %% \l__input_seq is a list of term definitions.
10  \regex_split:nnN { ;; } { #4 } \l__input_seq
11  \begin{center}
12  \begin{lateximage}[#4]%    lwarp
13    \tl_set:Nn \l__table_tl
14      {
15        \begin{tabular}{#1}
16        }
17
18  \bool_set_true:N \l__tmp_first_term % Is this the first term in this grammar?
19  \seq_map_inline:Nn \l__input_seq
20    {
21      %% If not-first, add newline
22      \bool_if:NTF \l__tmp_first_term
23        {
24          \bool_set_false:N \l__tmp_first_term
25        }
26        {
27          \tl_put_right:Nn \l__table_tl { \\ }
28        }
29
30  \regex_split:nnNTF { ::= } { ##1 } \l__term_seq
31  % Parse a ::= definition
32  {
33    %% \l__term_seq - (lhs, rhses)...
34    %% \l__term_tl - lhs
35    %% \l__keypairs_tl - rhses
36    \seq_pop_left:NN \l__term_seq \l__term_tl
37    \seq_pop_left:NN \l__term_seq \l__keypairs_tl
38
39    \simplebnf_typeset_lhs:n{\l__term_tl}
40    \tl_put_right:Nn \l__table_tl
41      {
42        & \SimpleBNFDefEq &
43      }
44    %% \l__keypairs_seq - (rhs:annot | rhs)...
45  \regex_split:NVN \g_simplebnf_rhs_newline_r \l__keypairs_tl \l__keypairs_seq
46
47    \bool_set_true:N \l__first_rhs
48    \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
49  }
50  {
51  % Else, parse a \in declaration
52  \regex_split:nnNTF { \c{in} } { ##1 } \l__term_seq
53  {
54    %% \l__term_seq - (lhs, rhs)
55    \seq_pop_left:NN \l__term_seq \l__tmpa_tl
56
57    \simplebnf_typeset_lhs:n{\l__tmpa_tl}
58    \tl_put_right:Nn \l__table_tl
59      {
60        & $\in$ & $
61      }
62    \seq_pop_left:NN \l__term_seq \l__tmpa_tl
63    \tl_put_right:NV \l__table_tl \l__tmpa_tl
64    \tl_put_right:Nn \l__table_tl
65      {
66        $ &
67      }

```

```

68         }
69         { \msg_error:nn {simplebnf} { Could not parser ##1 } }
70     }
71 }
72
73 \tl_put_right:Nn \l__table_tl { \end{tabular} }
74 \tl_use:N \l__table_tl
75 \end{lateximage}%      lwarp
76 \end{center}
77 }
78 { }
79
80 \ExplSyntaxOff

```

---

File 451 **lwarp-SIunits.sty**

§ 560 Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

SIunits (*Pkg*) **Slunits** is patched for use by **lwarp**.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML `alt` tag:

```

2 \ifbool{mathjax}{
3   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4     \LWR@subsingledollar*% lwarp
5     {% alt tag
6       \textbackslash{}unit%
7       \{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
8       \{\LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}\}% extra space
9     }%
10    {SIunits}% add'l hashing
11    {%
12      #1\,{#2}%
13    }% contents
14  }
15 }{% not MathJax
16   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
17     \@inunitcommandtrue% original
18     \LWR@subsingledollar* lwarp
19     {% alt tag
20       \textbackslash{}unit{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%

```

```

21         \{ \LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}% extra space
22     }%
23     {SIunits}% add'l hashing
24     {%
25         \LWR@origensuredmath{% lwarp modification
26             \SI@fstyle{%
27                 {#1}\@qsk\period@active{#2}%
28             }% original
29         }%
30     }% contents
31     \@inunitcommandfalse% original
32 }
33 }% not MathJax
34 \LWR@formatted{unit}

```

#### For MATHJAX:

```

35 \begin{warpMathJax}
36 \LWR@inprocessingmathjax{SIunits}
37
38 \CustomizeMathJax{\newcommand{\one}{}{}}
39 \CustomizeMathJax{\newcommand{\meter}{\metre}}
40 \CustomizeMathJax{\newcommand{\deka}{\deca}}
41 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
42 \CustomizeMathJax{\newcommand{\per}{/}}
43 \CustomizeMathJax{\newcommand{\usk}{\;}}
44 \CustomizeMathJax{\newcommand{\unit}[2]{#1\, #2}}
45 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
46
47 \AtBeginDocument{%
48   \if@redefsquare
49     \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
50   \else
51     \if@defsquaren
52       \CustomizeMathJax{\newcommand{\squaren}[1]{\power{#1}{2}}}
53     \else
54       \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
55     \fi %\if@defsquaren
56   \fi %\if@redefsquare
57 } %\AtBeginDocument
58
59 \CustomizeMathJax{\newcommand{\squared}{^{\{2\}}}
60 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
61 \CustomizeMathJax{\newcommand{\cubed}{^{\{3\}}}
62 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
63 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
64 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
65 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
66 \CustomizeMathJax{\newcommand{\rpsquared}{^{\{-2\}}}
67 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
68 \CustomizeMathJax{\newcommand{\rpcubed}{^{\{-3\}}}
69 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
70 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
71 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
72 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
73 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
74 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
75 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
76 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
77 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}

```

```
78 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
79 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
80 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
81 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
82 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
83 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
84 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
85 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
86 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
87 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
88 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
89 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
90 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
91 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
92 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
93 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
94 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
95 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
96 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
97 \CustomizeMathJax{\newcommand{\milid}{\power{10}{-3}}}
98 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
99 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
100 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
101 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
102 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
103 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
104 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
105 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
106 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
107 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
108 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
109 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
110 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
111 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
112 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
113 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
114 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
115 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
116 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
117 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
118 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
119 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
120 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
121 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
122 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
123 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
124 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
125 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
126 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
127 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
128 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
129 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
130 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
131 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
132 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
133 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
134 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
135 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
136 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
137 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
```

```
138 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}  
139 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}  
140  
141 \ifdef{\radianbase}{  
142 \CustomizeMathJax{\newcommand{\radianbase}%  
143     {\metre\usk\reciprocal\metre}}  
144 \CustomizeMathJax{\newcommand{\steradianbase}%  
145     {\squaremetre\usk\rpsquare\metre}}  
146 \CustomizeMathJax{\newcommand{\hertzbase}%  
147     {\reciprocal\second}}  
148 \CustomizeMathJax{\newcommand{\newtonbase}%  
149     {\metre\usk\kilogram\usk\second\rpsquared}}  
150 \CustomizeMathJax{\newcommand{\pascalbase}%  
151     {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}  
152 \CustomizeMathJax{\newcommand{\joulebase}%  
153     {\squaremetre\usk\kilogram\usk\second\rpsquared}}  
154 \CustomizeMathJax{\newcommand{\wattbase}%  
155     {\squaremetre\usk\kilogram\usk\rpcubic\second}}  
156 \CustomizeMathJax{\newcommand{\coulombbase}%  
157     {\ampere\usk\second}}  
158 \CustomizeMathJax{\newcommand{\voltbase}%  
159     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}  
160 \CustomizeMathJax{\newcommand{\faradbase}%  
161     {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}  
162 \CustomizeMathJax{\newcommand{\ohmbase}%  
163     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}  
164 \CustomizeMathJax{\newcommand{\siemensbase}%  
165     {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}  
166 \CustomizeMathJax{\newcommand{\weberbase}%  
167     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}  
168 \CustomizeMathJax{\newcommand{\teslabase}%  
169     {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}  
170 \CustomizeMathJax{\newcommand{\henrybase}%  
171     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}  
172 \CustomizeMathJax{\newcommand{\celsiusbase}%  
173     {\kelvin}}  
174 \CustomizeMathJax{\newcommand{\lumenbase}%  
175     {\candela\usk\squaremetre\usk\rpsquare\metre}}  
176 \CustomizeMathJax{\newcommand{\luxbase}%  
177     {\candela\usk\squaremetre\usk\rpfourth\metre}}  
178 \CustomizeMathJax{\newcommand{\becquerelbase}%  
179     {\hertzbase}}  
180 \CustomizeMathJax{\newcommand{\graybase}%  
181     {\squaremetre\usk\second\rpsquared}}  
182 \CustomizeMathJax{\newcommand{\sievertbase}%  
183     {\graybase}}  
184 \CustomizeMathJax{\newcommand{\katalbase}%  
185     {\rp\second\usk\mole }}  
186 }{ }  
187  
188 \ifdef{\derradian}{  
189 \CustomizeMathJax{\newcommand{\derradian}%  
190     {\metre\usk\reciprocal\metre}}  
191 \CustomizeMathJax{\newcommand{\dersteradian}%  
192     {\squaremetre\usk\rpsquare\metre}}  
193 \CustomizeMathJax{\newcommand{\derhertz}%  
194     {\reciprocal\second}}  
195 \CustomizeMathJax{\newcommand{\dernewton}%  
196     {\metre\usk\kilogram\usk\second\rpsquared}}  
197 \CustomizeMathJax{\newcommand{\derpascal}%
```

```

198     {\newton\usk\rpsquare\metre}}
199 \CustomizeMathJax{\newcommand{\derjoule}%
200     {\newton\usk\metre}}
201 \CustomizeMathJax{\newcommand{\derwatt}%
202     {\joule\usk\reciprocal\second}}
203 \CustomizeMathJax{\newcommand{\dercoulomb}%
204     {\ampere\usk\second}}
205 \CustomizeMathJax{\newcommand{\dervolt}%
206     {\watt\usk\reciprocal\ampere}}
207 \CustomizeMathJax{\newcommand{\derfarad}%
208     {\coulomb\usk\reciprocal\volt}}
209 \CustomizeMathJax{\newcommand{\derohm}%
210     {\volt\usk\reciprocal\ampere}}
211 \CustomizeMathJax{\newcommand{\dersiemens}%
212     {\ampere\usk\reciprocal\volt}}
213 \CustomizeMathJax{\newcommand{\derweber}%
214     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
215 \CustomizeMathJax{\newcommand{\dertesla}%
216     {\weber\usk\rpsquare\metre}}
217 \CustomizeMathJax{\newcommand{\derhenry}%
218     {\weber\usk\reciprocal\ampere}}
219 \CustomizeMathJax{\newcommand{\dercelsius}%
220     {\kelvin}}
221 \CustomizeMathJax{\newcommand{\derlumen}%
222     {\candela\usk\steradian}}
223 \CustomizeMathJax{\newcommand{\derlux}%
224     {\lumen\usk\rpsquare\metre}}
225 \CustomizeMathJax{\newcommand{\derbecquerel}%
226     {\derhertz}}
227 \CustomizeMathJax{\newcommand{\dergray}%
228     {\joule\usk\reciprocal\kilogram}}
229 \CustomizeMathJax{\newcommand{\dersievert}%
230     {\dergray}}
231 \CustomizeMathJax{\newcommand{\derkatal}%
232     {\katalbase}}
233 }{}
234
235 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
236 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
237 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
238 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
239 \CustomizeMathJax{\newcommand{\pminute}{^\prime}}
240 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
241 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
242 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
243 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
245 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
246 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
247 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
248 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
249 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
250 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
251 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
252 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
253 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
254 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
255 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
257 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}

```



```
258 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
259 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
260 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
261 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar{b}}}}
262 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
263 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
264 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
265 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
266 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
267 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
268 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
269 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
271 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
272 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
273 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
275 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
277 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
279   \kilogram\usk\squaremetre\per\second%
280 }}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
282   \kilogram\usk\squaremetre\usk\reciprocal\second%
283 }}
284 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
285 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
287 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
288   \squaremetre\usk\rpcubic\metre%
289 }}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
291 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
292 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
293 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
295 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
297 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
298 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
299   \squaremetre\per\newton\usk\second%
300 }}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
302   \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
303 }}
304 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
306 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
307 \CustomizeMathJax{\newcommand{\amperepermetresecond}{\ampere\usk\metre\usk\second}}
308 \CustomizeMathJax{\newcommand{\voltpersmetre}{\volt\per\metre}}
309 \CustomizeMathJax{\newcommand{\voltpersmetrenp}{\volt\usk\reciprocal\metre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
311 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
313 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
314 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
315 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
317 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
```

```

318 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
319 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
323 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
329 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
331 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
332   \squaremetre\usk\reciprocal\second%
333 }}
334 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
335   \squaremetre\per\second\squared%
336 }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
338   \squaremetre\usk\second\rpsquared%
339 }}
340 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
341   \kilogram\usk\metre\per\second%
342 }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
344   \kilogram\usk\metre\usk\reciprocal\second%
345 }}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
347 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
349 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
350 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
351 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
352 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
353 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
356 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
357   \kilogram\per\squaremetre\usk\second%
358 }}
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
360   \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
361 }}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
363 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
365 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
367 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
368   \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
369 }}
370 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
371 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
372   \kilogram\usk\kilo\reciprocal\mole%
373 }}
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
376 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
377   \kilogram\usk\metre\per\second\squared%

```

```

378 }}
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
380   \kilogram\usk\metre\usk\second\rpsquared%
381 }}
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
383 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
385 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
386   \rpsquare\metre\usk\reciprocal\second%
387 }}
388 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
391 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
392 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
393   \watt\per\squaremetre\usk\steradian%
394 }}
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
396   \watt\usk\rpsquare\metre\usk\rp\steradian%
397 }}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
399 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
400   \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
401 }}
402 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
403 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
404   \squaremetre\usk\reciprocal\kilogram%
405 }}
406 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
407 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
408   \cubic\metre\usk\reciprocal\kilogram%
409 }}
410 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
411 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
412 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
414 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
415   \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
416 }}
417 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
418 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}
419 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
420   \squaremetre\per\cubic\second%
421 }}
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
423   \squaremetre\usk\rpcubic\second%
424 }}
425 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
426 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
428 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
429 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
430   \kilogram\per\cubic\metre\usk\coulomb%
431 }}
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
433   \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
434 }}
435 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubic\metre\per\second}}
436 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubic\metre\usk\reciprocal\second}}
437 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%

```

```

438 \kilogram\per\second\usk\cubicmetre%
439 }}
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
441 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
442 }}
443 \end{warpMathJax}

```

---

File 452 **lwarp-siunitx.sty**

§ 561 Package **siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

siunitx (*Pkg*) siunitx is patched for use by lwarp, and is emulated for MATHJAX.

**for HTML output:**

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \RequirePackage{xcolor}% for \convertcolorspec
9
10 \LWR@ProvidesPackagePass{siunitx}[2022-02-15]
11
12 \ExplSyntaxOn

13 \cs_set_protected:Npn \siunitx_number_format:nN #1#2
14 {
15   \group_begin:
16     \bool_if:NTF \l_siunitx_number_parse_bool
17     {
18       \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl
19       \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l__siunitx_number_parsed_tl
20       \tl_set:Nx \l__siunitx_number_outputted_tl
21       { \siunitx_number_output:N \l__siunitx_number_parsed_tl }
22     }
23     {
24       \tl_set:Nn \l__siunitx_number_outputted_tl
25       {
26         \LWR@subsingledollar{%                lwarp
27           \textbackslash( % space
28           \LWR@HTMLsanitizedetokenized{%
29             \detokenize{#1}%
30           } \textbackslash)%                lwarp
31         }%
32         {siunitx unparsed}%
33         {\ensuremath{#1}}%                lwarp
34       }
35     }
36   \exp_args:NNNV \group_end:
37   \tl_set:Nn #2 \l__siunitx_number_outputted_tl
38 }

39 \cs_set_protected:Npn \__siunitx_compound_unparsed:n #1
40 {

```

```

41 \tl_if_blank:nF {#1}
42   { \seq_put_right:Nn \l__siunitx_compound_tmp_seq
43     {
44       \LWR@subsingledollar{%           lwarp
45         \textbackslash( % space
46         \LWR@HTMLsanitizedetokenized{%
47         \detokenize{#1}%
48         } \textbackslash)%           lwarp
49       }%
50     {siunitx unparsed}%
51     {\ensuremath{#1}}%           lwarp
52   }
53 }
54 }

```

If not in a `lateximage`, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

55 \cs_set_protected:Npn \l__siunitx_print_aux:nn #1#2
56 {
57   \tl_if_empty:cTF { \l__siunitx_print_ #1 _color_tl }
58   { \use:n }
59   { \exp_args:Nv \textcolor { \l__siunitx_print_ #1 _color_tl } }
60   {
61     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%           lwarp
62     {
63       \use:c
64       {
65         siunitx_print_
66         \tl_use:c { \l__siunitx_print_ #1 _mode_tl } :n
67       }
68       {#2}
69     }
70     {
71       \bool_lazy_all:nTF%           lwarp
72       {
73         {\l__siunitx_print_text_family_bool}
74         {\l__siunitx_print_text_series_bool}
75         {\l__siunitx_print_text_shape_bool}
76       }
77       {% No font control if reset-text-family/series/shape
78       \use:c
79       {
80         siunitx_print_%           lwarp
81         text%           lwarp
82         :n%           lwarp
83       }%           lwarp
84       {#2}%           lwarp
85     }
86     {
87       \LWR@textcurrentfont{%           lwarp
88       \use:c
89       {
90         siunitx_print_%           lwarp
91         text%           lwarp
92         :n%           lwarp
93       }%           lwarp
94       {#2}%           lwarp
95     }
96   }

```

```

97     }
98   }
99 }

```

To determine whether to make a complex root be italic or upright, `\l__siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrm<i/j>`, and the CSS style is set appropriately.

```

100 \newcommand*\LWR@siunitx@complexrootstyle}{textrm}
101
102 \newcommand*\LWR@siunitx@complexrmi}{\mathrm{i}}
103 \newcommand*\LWR@siunitx@complexrmj}{\mathrm{j}}
104
105 \newcommand*\LWR@siunitx@setcomplexroot}{%
106   \renewcommand*\LWR@siunitx@complexrootstyle}{textit}%
107   \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
108     {\renewcommand*\LWR@siunitx@complexrootstyle}{textrm}}%
109   {}%
110   \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
111     {\renewcommand*\LWR@siunitx@complexrootstyle}{textrm}}%
112   {}%
113 }

114 \cs_set_protected:Npn \l__siunitx_complex_format_auxii:n #1
115 {
116   \LWR@siunitx@setcomplexroot%           lwarp
117   \l__siunitx_complex_format_units:n {#1}
118   \tl_if_empty:NF \l__siunitx_complex_real_tl
119   { \exp_after:wN \l__siunitx_complex_drop_exponent:nnnnnn \l__siunitx_complex_real_tl }
120   \exp_after:wN \l__siunitx_complex_format_sign:nnnnnn \l__siunitx_complex_img_tl
121   \tl_set:Nx \l__siunitx_complex_tmp_tl
122     { \siunitx_number_output:NN \l__siunitx_complex_img_tl \q_nil }
123   \exp_after:wN \l__siunitx_complex_extract_exponent:w \l__siunitx_complex_tmp_tl \q_stop
124   \tl_set:Nx \l__siunitx_complex_tmp_tl
125     {
126       \bool_lazy_or:nnTF
127       {
128         \bool_lazy_and_p:nn
129         { \l__siunitx_number_bracket_ambiguous_bool }
130         { ! \tl_if_empty_p:N \l__siunitx_complex_exp_tl }
131       }
132       {
133         ! \bool_lazy_any_p:n
134         {
135           { \tl_if_blank_p:n {#1} }
136           { \tl_if_empty_p:N \l__siunitx_complex_real_tl }
137           { \tl_if_empty_p:N \l__siunitx_complex_img_tl }
138         }
139       }
140     }
141     { \l__siunitx_complex_format_bracket:n }
142     { \use:n }
143     {
144       \siunitx_number_output:N \l__siunitx_complex_real_tl
145       \exp_not:V \l__siunitx_complex_sign_tl
146       \bool_if:NF \l__siunitx_complex_root_after_bool
147       {
148         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
149         {
150           \exp_not:V \l__siunitx_complex_output_root_tl
151         }
152       }
153     }
154   }
155 }

```

```

151     }
152     \exp_not:V \l__siunitx_complex_tmp_tl
153     \bool_if:NT \l__siunitx_complex_root_after_bool
154     {
155         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
156         {
157             \exp_not:V \l__siunitx_complex_output_root_tl
158         }
159     }
160 }
161 \exp_not:V \l__siunitx_complex_exp_tl
162 }
163 }

```

{<1: deg/min/sec character>} {<2: ?>} {<3: ?>} {<4: integer part of angle>} {<5: decimal point character>} {<6: decimal part of angle>} {<7: ?>} {<8: ?>}

If not in a lateximage, print a simplified version without the box measurement things which conflict with lwarp:

```

164 \cs_set_protected:Npn \__siunitx_angle_arc_print_auxii:nw
165 #1#2 \q_nil #3 \q_nil #4 \q_nil #5 \q_nil #6 \q_nil #7 \q_nil #8 \q_stop
166 {
167     \mode_if_math:TF
168     { \bool_set_true:N \l__siunitx_angle_tmp_bool }
169     { \bool_set_false:N \l__siunitx_angle_tmp_bool }
170     \siunitx_print_number:n {#2#3#4}
171     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
172     {% lwarp
173         \tl_if_blank:nTF {#6}
174         { \__siunitx_angle_arc_print_auxvi:n {#1} }
175         {
176             \hbox_set:Nn \l__siunitx_angle_marker_box
177             {
178                 \__siunitx_angle_arc_print_auxiii:n
179                 { \siunitx_print_number:n {#5} }
180             }
181             \hbox_set:Nn \l__siunitx_angle_unit_box
182             {
183                 \__siunitx_angle_arc_print_auxiii:n
184                 {
185                     \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
186                     \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
187                     \skip_horizontal:n { -\scriptspace }
188                 }
189             }
190             \dim_compare:nNnTF { \box_wd:N \l__siunitx_angle_marker_box } >
191             { \box_wd:N \l__siunitx_angle_unit_box }
192             {
193                 \__siunitx_angle_arc_print_auxiv:NN
194                 \l__siunitx_angle_marker_box
195                 \l__siunitx_angle_unit_box
196             }
197             {
198                 \__siunitx_angle_arc_print_auxiv:NN
199                 \l__siunitx_angle_unit_box
200                 \l__siunitx_angle_marker_box
201             }
202             \hbox_set_to_wd:Nnn \l__siunitx_angle_marker_box
203             \l__siunitx_angle_tmp_dim

```

```

204     {
205         \hbox_overlap_right:n
206         { \box_use_drop:N \l__siunitx_angle_marker_box }
207         \hbox_overlap_right:n
208         { \box_use_drop:N \l__siunitx_angle_unit_box }
209         \tex_hfil:D
210     }
211     \box_use:N \l__siunitx_angle_marker_box
212     \skip_horizontal:N \scriptspace
213     \siunitx_print_number:n {#6}
214 }
215 }%

{\langle 1: deg/min/sec character\rangle} {\langle 2: ?\rangle} {\langle 3: ?\rangle} {\langle 4: integer part of angle\rangle} {\langle 5:
decimal point character\rangle} {\langle 6: decimal part of angle\rangle} {\langle 7: ?\rangle} {\langle 8: ?\rangle}

216 {%          lwarp: not in a lateximage, simplify for HTML
217     \tl_if_blank:nTF {#6}
218     { \__siunitx_angle_arc_print_auxvi:n {#1} }
219     {
220         \__siunitx_angle_arc_print_auxiii:n
221         {
222             \siunitx_print_number:n {#5}
223         }
224         \__siunitx_angle_arc_print_auxiii:n
225         {
226             \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
227             \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
228         }
229         \siunitx_print_number:n {#6}
230     }
231 }%          lwarp
232 }

```

If not in a lateximage, print a simple inline fraction, avoiding the use of svg math:

```

233 \cs_set_protected:Npn \__siunitx_print_text_fraction:Nnn #1#2#3
234 {
235     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
236     {%
237         \ensuremath
238         {
239             #1
240             { \mbox { \__siunitx_print_text_replace:n {#2} } }
241             { \mbox { \__siunitx_print_text_replace:n {#3} } }
242         }
243     }%
244     {%
245         { \mbox { \__siunitx_print_text_replace:n {#2} } }% lwarp
246         /% lwarp
247         { \mbox { \__siunitx_print_text_replace:n {#3} } }% lwarp
248     }% lwarp
249 }

```

If not in a lateximage, print a \textsubscript:

```

250 \cs_set_protected:Npn \__siunitx_unit_format_qualifier_subscript:
251 {
252     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp

```



```

253  {%
254    \__siunitx_unit_format_font:
255    \tl_set:Nx \l__siunitx_unit_part_tl
256    {
257      \c__siunitx_unit_math_subscript_tl
258      {
259        \exp_not:V \l_siunitx_unit_font_tl
260        { \exp_not:V \l__siunitx_unit_part_tl }
261      }
262    }
263  }
264  {%    lwarp simplified for HTML:
265    \__siunitx_unit_format_font:
266    \tl_set:Nx \l__siunitx_unit_part_tl
267    {
268      \textsubscript
269      {
270        \exp_not:V \l_siunitx_unit_font_tl
271        { \exp_not:V \l__siunitx_unit_part_tl }
272      }
273    }
274  }
275  }

276 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
277 {
278   \group_begin:
279   \siunitx_unit_options_apply:n {#2}
280   \tl_if_blank:nTF {#1}
281   {
282     \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
283     \siunitx_print_unit:V \l__siunitx_quantity_unit_tl
284   }
285   {
286     \bool_if:NTF \l_siunitx_number_parse_bool
287     { \__siunitx_quantity_parsed:nn {#1} {#2} }
288     {
289       \tl_set:Nn \l__siunitx_quantity_number_tl {
290         \LWR@subsingledollar{%          lwarp
291           \textbackslash( % space
292           \LWR@HTMLsanitizedetokenized{%
293             \detokenize{#1}%
294           } \textbackslash)%          lwarp
295         }%
296         {siunitx unparsed}%
297         {\ensuremath{#1}}%          lwarp
298       }
299       \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
300       \siunitx_quantity_print:VV
301       \l__siunitx_quantity_number_tl \l__siunitx_quantity_unit_tl
302     }
303   }
304   \group_end:
305 }

\cancel for HTML does not work yet.

306 \newcommand*{\LWR@siunitx@nocancel}[1]{%
307   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
308     {\cancel{#1}}% SVG

```

```

309     {#1}%           HTML
310 }
311
312 \AtBeginDocument{
313 \__siunitx_unit_set_symbolic:Npnn \cancel
314 { }
315 % { \__siunitx_unit_parse_special:n { \cancel } }
316 { \__siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }%   lwarp
317 }

```

For HTML, use a simple unaligned \num:

```

318 \newcommand{\LWR@HTML@tablenum}[2][\num[#1]{#2}]
319 \LWR@formatted{tablenum}

```

For HTML, the S column is simplified to a c column. Keys are set locally, allowing drop-exponent, etc.

```

320 \AtBeginDocument{
321 \HTMLnewcolumnmtype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}]
322 }

```

To define simplified units for HTML:

`\HTMLDeclareSIUnit` [*options*] {*name*} {*definition*}

```

323 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
324 {
325   \ifcsdef{ __siunitx_unit_ \token_to_str:N #2 :w }
326     {}
327     {
328       \PackageError{lwarp}
329         {%
330           First~use~\MessageBreak
331             \space\space\protect\DeclareSIUnit{
332               \token_to_str:N#2}{...}\MessageBreak
333             before~using~\MessageBreak
334               \space\space\protect\HTMLDeclareSIUnit{
335                 \token_to_str:N#2}{...}%
336             }
337             {%
338               See~the~Lwarp~manual~section~about~special~cases,~
339               regarding~siunitx.%
340             }
341           }
342   \csNewCommandCopycs
343     { __orig_siunitx_unit_ \token_to_str:N #2 :w }
344     { __siunitx_unit_ \token_to_str:N #2 :w }
345   \DeclareSIUnit[#1]{#2}
346     {
347       \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
348         {\csuse{ __orig_siunitx_unit_ \token_to_str:N #2 :w }}
349         {#3}
350       }
351 }
352 \ExplSyntaxOff

```

## HTML versions for existing units:

```

353 \AtBeginDocument{
354 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
355 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
356 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
357 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
358 %
359 \HTMLDeclareSIUnit\clicht{\text{\textit{c}}\textsubscript{0}}
360 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\textsubscript{0}}
361 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\textsubscript{e}}
362 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\textsubscript{h}}
363 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
364 }% \AtBeginDocument

```

## Initial options:

```

365 \AtBeginDocument{
366 \sisetup{
367   per-mode=symbol,    % fraction is not seen by pdftotext
368   angle-symbol-degree = {\LWR@siunitx@textdegree},
369   angle-symbol-minute = {\LWR@siunitx@textprime} ,
370   angle-symbol-second = {\LWR@siunitx@textdblprime} ,
371 }
372 }

```

## Load late patches for lltjp-siunitx:

```

373 \AtBeginDocument{
374 \ifdef\ltj@allalchar
375   {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
376   {}
377 }

```

## For MATHJAX:

```

378 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
379
380 \CustomizeMathJax{\let\unit\si}
381 \CustomizeMathJax{\let\qty\SI}
382 \CustomizeMathJax{\let\qtylist\SIlist}
383 \CustomizeMathJax{\let\qtyrange\SIrange}
384 \CustomizeMathJax{\let\numproduct\num}
385 \CustomizeMathJax{\let\qtyproduct\SI}
386 \CustomizeMathJax{\let\complexnum\num}
387 \CustomizeMathJax{\newcommand{\complexqty}[3][\complexnum{#2})\si{#3}}

```

## Pass range-phrase to common-mathjax-siunitx:

```

388 \ExplSyntaxOn
389 \AtBeginDocument{
390 \edef\LWR@siunitx@rangephrase{\_siunitx_range_phrase_tl}
391 \expandafter\CustomizeMathJax\expandafter{%
392   \expandafter\def\expandafter\LWRsiunitxrangephrase%
393   \expandafter{\LWR@siunitx@rangephrase}%
394 }
395 }
396 \ExplSyntaxOff

```

File 453 **lwarp-siunitx-v2.sty**

§ 562 Package **siunitx-v2**

(Emulates or patches code by JOSEPH WRIGHT.)

siunitx-v2 (*Pkg*) siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

 **drop-exponent**

 **table-auto-round**

`table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with `svg display`:** The original siunitx code is used while generating the SVG image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

 **v3 only!**

Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit`

declares a simplified version of the unit for HTML, for example if the print-mode unit uses TEX boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

#### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

#### ⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

#### custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

#### ⚠ unit spacing

- Units work better using `~` between units instead of using periods.

#### ⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

#### ⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

#### for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[=v2]% 2021-04-17

4 \AtBeginDocument{% in case textcomp was not loaded
5   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

Support the S and s column types:

```

12 \AtBeginDocument{
13 \HTMLnewcolumnstype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
14 \HTMLnewcolumnstype{s}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
15 }

```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. `svg math` is created explicitly when necessary, using `\LWR@subsingledollar`.

```

16
17 \ExplSyntaxOn
18 %

```

Modified to use the print version of `\@ensuredmath` to avoid having a `lateximage` each time.

```

19 \AtBeginDocument{
20 \cs_set_protected:Npn \__siunitx_print_text:
21   {
22     \LetLtxMacro\@ensuredmath\LWR@origensuredmath%          lwarp
23     \tl_replace_all:Nnn \l__siunitx_print_arg_tl { - }
24       { \textminus }
25     \__siunitx_print_text_aux:
26     \tl_replace_all:Nnn \l__siunitx_print_arg_tl { \mp }
27       { \ensuremath { \mp } }
28     \tl_remove_all:Nn \l__siunitx_print_arg_tl { \mathord }
29     \cs_set_eq:NN \PrintSubscript \__siunitx_print_text_sub:n
30     \cs_set_eq:NN \PrintSuperscript \__siunitx_print_text_super:n
31     \__siunitx_print_text_aux:NnN
32     _ { math_subscript } \__siunitx_print_text_sub:n
33     _ { active } \__siunitx_print_text_sub:n
34     ^ { math_superscript } \__siunitx_print_text_super:n
35     ^ { active } \__siunitx_print_text_super:n
36     \q_recursion_tail ? ?
37     \q_recursion_stop
38     \l__siunitx_print_arg_tl
39   }
40 }

```

Modified to set set HTML `\textcolor` if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@__siunitx_print_aux:
42   {
43     \text
44     {
45       \__siunitx_ensure_ltr:n
46       {
47         \color@begingroup
48 %
49         \__siunitx_print_color:
50         \__siunitx_font_shape:
51         \__siunitx_font_weight:
52         \use:c
53         {
54           __siunitx_ \l__siunitx_print_type_tl _
55           text \l__siunitx_font_family_tl :
56         }

```

```

57%         \bool_if:NTF \l__siunitx_font_math_mode_bool
58%         {
59%             \__siunitx_print_math:
60%         }
61         {
62             \LWR@findcurrenttextcolor% lwarp
63             \ifdefstring{\LWR@tempcolor}{000000}% lwarp
64             {\__siunitx_print_text:}% lwarp
65             {% lwarp
66                 \LWR@textcurrentcolor{% lwarp
67                     \__siunitx_print_text:
68                 }% lwarp
69             }% lwarp
70         }
71         \color@endgroup
72%
73     }
74 }
75 }
76 \LWR@formatted{\__siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@__siunitx_set_math_fam:n #1 {
79     \group_begin:
80     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
81     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
82     \hbox_set:Nn \l__siunitx_tmp_box
83     {
84         \ensuremath
85         {
86             \use:c { math #1 }
87             {
88                 \int_const:cn { c__siunitx_math #1 _int } { \fam }
89             }
90         }
91     }
92     \group_end:
93 }
94 \LWR@formatted{\__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97%
98     \group_begin:% lwarp
99     \bool_if:NTF \l__siunitx_number_parse_bool
100    {
101        \tl_clear:N \l__siunitx_number_out_tl
102        \bool_set_false:N \l__siunitx_number_compound_bool
103        \__siunitx_number_output_parse:n {#1}
104    }
105    {

```

For parse-numbers=false:

```

106     \__siunitx_unit_output_pre_print:
107     \begingroup%                               lwarp
108     \boolfalse{mathjax}%                       lwarp
109%     \__siunitx_print:nn { number } { \ensuremath {#1} }
110     \LWR@subsingledollar%                     lwarp
111     {% alt text
112         \textbackslash( % space
113         \LWR@HTMLsanitizedetokenized{%

```

```

114         \detokenize{#1}%
115     } \textbackslash)%          lwarp
116     }
117     {siunitx}% addl hashing
118     {%
119         \__siunitx_print:nn { number } {%
120             \LWR@origensuredmath{#1}%
121         }%
122     }%          lwarp
123     \endgroup%          lwarp
124     \__siunitx_unit_output_print:
125 }
126 \group_end:% lwarp
127 %
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131 {
132     \bool_if:NTF \l__siunitx_number_parse_bool
133     {
134         \tl_clear:N \l__siunitx_number_out_tl
135         \tl_clear:N \l__siunitx_number_out_saved_tl
136         \bool_set_false:N \l__siunitx_number_compound_bool
137         \__siunitx_number_output_parse:n {#1}
138         \bool_if:NT \l__siunitx_number_compound_bool
139         { \msg_error:nxx { siunitx } { multi-part-range } {#1} }
140     }
141     {
142         \__siunitx_unit_output_pre_print:
143         \begingroup%          lwarp
144             \boolfalse{mathjax}%          lwarp
145         \__siunitx_print:nn { number } {#1}
146             \LWR@subsingledollar%          lwarp
147             {% alt text
148                 \textbackslash( % space
149                 \LWR@HTMLsanitizedetokenized{%
150                     \detokenize{#1}%
151                 } \textbackslash)%          lwarp
152             }%
153             {siunitx}% addl hashing
154             {%
155                 \__siunitx_print:nn { number } {%
156                     \LWR@origensuredmath{#1}%
157                 } %          lwarp
158             }%          lwarp
159         \endgroup%          lwarp
160         \__siunitx_unit_output_print:
161     }
162 }
163 \LWR@formatted{__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_direct_aux:nn #1#2 {
165     \tl_if_empty:nF {#1}
166     {
167         \tl_set:Nn \l__siunitx_unit_tl {#2}

```



```

168     \begingroup%                                lwarp
169         \boolfalse{mathjax}%                    lwarp
170 %         \__siunitx_print:nn { number } {#1}
171         \LWR@subsingledollar{%                    lwarp
172             \textbackslash( % space
173             \LWR@HTMLsanitizedetokenized{%
174                 \detokenize{#1}%
175             } \textbackslash)%                    lwarp
176         }%
177         {siunitx}%
178         {%
179             \__siunitx_print:nn { number } {
180                 \LWR@origensuredmath{#1}%
181             }%                                    lwarp
182         }%                                    lwarp
183     \endgroup%                                    lwarp
184     \__siunitx_unit_output_print:
185 }
186 }
187 \LWR@formatted{__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_quotient_fraction: {
190     \bool_set_true:N \l__siunitx_number_compound_bool
191     \__siunitx_number_output_quotient_aux_i:
192     \tl_set_eq:NN \l__siunitx_number_out_tl
193     \l__siunitx_number_numerator_tl
194     \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
195     \tl_put_right:NV \l__siunitx_number_out_tl
196     \l__siunitx_number_denominator_tl
197     \__siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{__siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_format_fraction_fraction: {
201     \__siunitx_unit_format_fraction_symbol_aux:
202     \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
203     {
204         \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
205         {
206             \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
207             \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
208         }
209     }
210     \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
211     \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
212     \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{__siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_astronomy_aux: {
216     \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
217     \l__siunitx_tmpa_tl
218     { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
219     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp

```

```

220 {% lateximage
221   \hbox_set:Nn \l__siunitx_angle_marker_box
222     {
223       \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
224     }
225   \hbox_set:Nn \l__siunitx_angle_unit_box
226     {
227       \__siunitx_print:nV { unit } \l__siunitx_unit_tl
228       \skip_horizontal:n { -\scriptspace }
229     }
230   \__siunitx_angle_print_astronomy_aux:n { marker }
231   \__siunitx_angle_print_astronomy_aux:n { unit }
232   \hbox_set:Nn \l__siunitx_angle_marker_box
233     {
234       \box_use:N \l__siunitx_angle_marker_box
235       \box_use:N \l__siunitx_angle_unit_box
236     }
237   \dim_compare:nNnTF
238     { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
239     { \__siunitx_angle_print_astronomy_marker: }
240     { \__siunitx_angle_print_astronomy_unit: }
241 }% lateximage
242 {% not a lateximage
243   \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
244   \__siunitx_print:nV { unit } \l__siunitx_unit_tl
245 }% not a lateximage
246 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
247   \l__siunitx_tmpa_tl
248   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
249 }
250 \LWR@formatted{__siunitx_angle_print_astronomy_aux:}

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {\textsuperscript{#1}}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

\LWR@origenduresmath is added here in case the user asks for \mathrm, etc. for
output-exponent-marker.

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260   \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261     \l__siunitx_tmpa_tl
262   \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263     {
264       \tl_set:Nx \l__siunitx_tmpa_tl
265         { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266       \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267     }
268     {
269       \tl_set:Nx \l__siunitx_tmpa_tl
270         {
271           \LWR@origensuredmath{%   lwarp
272             \exp_not:V \l__siunitx_output_exponent_tl
273           }%
274           lwarp

```

```

274         \exp_not:N \mathord
275         \exp_not:V \l__siunitx_tmpa_tl
276     }
277 }
278 \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279 \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283   \__siunitx_number_format_brackets:n { mantissa }
284   \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285   \l__siunitx_tmpa_tl
286   \tl_if_empty:NT \l__siunitx_output_exponent_tl
287   {
288     \tl_put_right:Nx \l__siunitx_tmpa_tl
289     {
290       \exp_not:N \LWR@origensuredmath%      lwarp
291       {
292         \bool_if:NTF \l__siunitx_tight_bool
293           { { \exp_not:V \l__siunitx_exponent_product_tl } }
294           { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295       }
296     }
297   }
298   \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299   \l__siunitx_tmpb_tl
300   \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301   \prop_put:NnV \l__siunitx_number_out_prop { result }
302   \l__siunitx_tmpa_tl
303   \prop_put:Nnn \l__siunitx_number_out_prop
304   { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308   \bool_if:NTF \l__siunitx_multi_repeat_bool
309   {
310     \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
311     {
312       \__siunitx_number_output_parts_aux:n { mantissa }
313       \__siunitx_number_output_parts_aux:n { complex }
314     }
315     \prop_get:NnNT \l__siunitx_number_out_prop { exponent-result }
316     \l__siunitx_tmpa_tl
317     {
318       \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
319       {
320         \tl_put_left:Nx \l__siunitx_tmpa_tl
321         {
322           \exp_not:N \LWR@origensuredmath
323           {
324             \bool_if:NTF \l__siunitx_tight_bool
325             { { \exp_not:V \l__siunitx_exponent_product_tl } }

```

```

326             { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
327         }
328     }
329     \prop_put:NnV \l__siunitx_number_out_prop { exponent }
330     \l__siunitx_tmpa_tl
331 }
332 \l__siunitx_number_output_parts_print:n { exponent }
333 }
334 }
335 { \l__siunitx_number_output_single: }
336 }
337 \LWR@formatted{\l__siunitx_number_output_parts_aux:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339   \int_compare:nNnF { \l__siunitx_unit_prefix_int } = { 0 }
340   {
341     \tl_set:Nx \l__siunitx_tmpa_tl
342     {
343       \bool_if:NTF \l__siunitx_tight_bool
344       {
345         \exp_not:N \LWR@origensuredmath%      lwarp
346         { { \exp_not:V \l__siunitx_exponent_product_tl } }
347       }
348       {
349         \exp_not:N \LWR@origensuredmath%      lwarp
350         { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
351       }
352       \int_use:N \l__siunitx_unit_prefix_base_int
353       ^ { \int_use:N \l__siunitx_unit_prefix_int }
354     }
355     \l__siunitx_print:nV { number } \l__siunitx_tmpa_tl
356   }
357   \tl_if_empty:NF \l__siunitx_unit_tl
358   {
359     \l__siunitx_unit_output_number_sep:
360     \l__siunitx_print:nV { unit } \l__siunitx_unit_tl
361   }
362 }
363 \LWR@formatted{\l__siunitx_unit_output_print:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365   {
366     \bool_if:NT \l__siunitx_process_fixed_bool
367     {
368       \tl_set_eq:NN \l__siunitx_tmpa_tl \l__siunitx_exponent_product_tl
369       \bool_if:NT \l__siunitx_tight_bool
370       {
371         \tl_set:Nx \l__siunitx_tmpa_tl
372         { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpa_tl }
373       }
374       \tl_set:Nx \l__siunitx_tmpa_tl
375       {
376         \exp_not:N \LWR@origensuredmath { %      lwarp
377         { } \exp_not:o \l__siunitx_tmpa_tl { }

```

```

378     }
379     10 \exp_not:N \PrintSuperscript
380     { \int_use:N \l__siunitx_process_fixed_int }
381   }
382   \__siunitx_print:nV { number } \l__siunitx_tmpa_tl
383 }
384 }
385 \LWR@formatted{\__siunitx_range_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387 {
388   \tl_set_eq:NN \l__siunitx_tmpb_tl \l__siunitx_exponent_product_tl
389   \bool_if:NT \l__siunitx_tight_bool
390   {
391     \tl_set:Nx \l__siunitx_tmpb_tl
392     { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpb_tl }
393   }
394   \tl_set:Nx \l__siunitx_tmpa_tl
395   {
396     \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l__siunitx_tmpb_tl { } }
397     \exp_not:o \l__siunitx_tmpa_tl
398   }
399 }
400 \LWR@formatted{\__siunitx_table_print_S_reserved_exponent_product:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402   \bool_set_true:N \l__siunitx_number_compound_bool
403   \__siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404   \bool_if:NF \l__siunitx_error_bool
405   {
406     \tl_if_empty:NTF \l__siunitx_number_multi_tl
407     { \__siunitx_number_output_parse_aux: }
408     { \__siunitx_number_output_quotient: }
409     \tl_if_empty:NF \l__siunitx_number_next_tl
410     {
411       \bool_if:NTF \l__siunitx_tight_bool
412       {
413         \__siunitx_print:nn { number }
414         { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415       }
416       {
417         \__siunitx_print:nn { number }
418         { \LWR@origensuredmath { { } \l__siunitx_output_product_tl { } } }
419       }
420     }
421   }
422 }
423 }
424 \LWR@formatted{\__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn \__siunitx_set_math_fam:n #1 {

```

```

426 \group_begin:
427   \hbox_set:Nn \l__siunitx_tmp_box
428     {
429       \LWR@origensuredmath%   lwarp
430       {
431         \use:c { math #1 }
432         {
433           \int_const:cn { c__siunitx_math #1 _int } { \fam }
434         }
435       }
436     }
437 \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn \__siunitx_range_numbers:nn #1#2
440 {
441   \__siunitx_range_numbers_aux:n {#1}
442   \text{\l__siunitx_range_phrase_tl}%   lwarp
443   \__siunitx_range_numbers_aux:n {#2}
444 }

```

Force \text:

```

445 \cs_set_protected:Npn \__siunitx_range_unit:nnnn #1#2#3#4 {
446   \__siunitx_unit_parse_options:nn {#1} {#2}
447   \bool_if:NTF \l__siunitx_range_repeat_bool
448     {
449       \__siunitx_unit_in:nn {#1} {#2}
450       \__siunitx_range_numbers_aux:n {#3}
451       \text{\l__siunitx_range_phrase_tl}%   lwarp
452       \__siunitx_range_numbers_aux:n {#4}
453     }
454     {
455       \bool_if:NT \l__siunitx_process_fixed_bool
456         { \bool_set_true:N \l__siunitx_process_drop_exponent_bool }
457       \bool_if:NT \l__siunitx_range_brackets_bool
458         { \__siunitx_print:nV { number } \l__siunitx_bracket_open_tl }
459       \__siunitx_range_numbers:nn {#3} {#4}
460       \bool_if:NT \l__siunitx_range_brackets_bool
461         { \__siunitx_print:nV { number } \l__siunitx_bracket_close_tl }
462       \__siunitx_range_exponent:
463       \__siunitx_unit_output_number_sep:
464       \__siunitx_unit_output:nn {#1} {#2}
465     }
466 }

```

```

467 \ExplSyntaxOff

```

```

468 \AtBeginDocument{
469 \sisetup{
470   detect-mode=true,
471   per-mode=symbol, % fraction is not seen by pdftotext
472   text-celsius = {\LWR@siunitx@textcelsius},
473   text-degree = {\LWR@siunitx@textdegree},
474   text-arcminute = {\LWR@siunitx@textprime} ,
475   text-arcsecond = {\LWR@siunitx@textdblprime} ,
476 }

```

477 }

478 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}

Passing range-phrase to `common-mathjax-siunitx` does not seem to work with v2 using `translator` as it does with v3 using `translations`. The range-phrase therefore is set to an en-dash.

479 \AtBeginDocument{

480 \CustomizeMathJax{\def\LWRsiunitxrangephrase{\unicode{x2013}}}

481 }

File 454 **lwarp-common-mathjax-siunitx.sty**

§ 563 Package **common-mathjax-siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

`common-mathjax-siunitx` (*Pkg*) `common-mathjax-siunitx` adds `MATHJAX` for `siunitx` and `siunitx-v2`.

for HTML output:  
`MATHJAX`

For `MATHJAX`.

The following runs much faster as separate `\CustomizeMathJax` calls instead of one single call.

```
1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{#2^{#1}}}
```

Used as an end marker when parsing values:

```
5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

`\ang`

[*options*] {*value*}

```
6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7   \ifblank{#1}{}{\num{#1}\degree}%
8   \ifblank{#2}{}{\num{#2}^{\unicode{x2032}}}% \prime
9   \ifblank{#3}{}{\num{#3}^{\unicode{x2033}}}% \dblprime
10 }}
11 \CustomizeMathJax{\newcommand{\ang}[2][\LWRsiunitxang#2; ; \LWRsiunitxEND]}
```

`\num`

[*options*] {*value*}

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macros is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus/minus (+-, `\pm`), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```

12 \ExplSyntaxOn
13 \AtBeginDocument{
14 \ifdefstring{\L__siunitx_output_decimal_tl}{,}
15   {\CustomizeMathJax{\def\LWRsiunitxdecimal{,}}}
16   {\CustomizeMathJax{\def\LWRsiunitxdecimal{.}}}
17 }
18 \ExplSyntaxOff

```

Any units which must be distributed across multiple dimensions:

```

19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}

```

siunitx accepts either commas or periods as decimal points. `\LWRsiunitxprintdecimal` splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

`\LWRsiunitxENDTWO` is used only by `\LWRsiunitxprintdecimalsubtwo`, to avoid a parsing conflict with the more widely-used `\LWRsiunitxEND`.

The following splits by decimal commas:

```

20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}
21
22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{}}

```

If nothing is ahead of the decimal comma, add a leading zero:

```

23 \ifblank{#1}{0}{\mathrm{#1}}%

```

If something is after the decimal comma, print the decimal and the fraction:

```

24 \ifblank{#2}%
25   {}%
26   {%
27     {\LWRsiunitxdecimal}%
28     \mathrm{#2}%
29   }%
30 }}

```

The following splits by decimal periods:

```

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
32   \LWRsiunitxprintdecimalsubtwo#1,,\LWRsiunitxENDTWO%
33   \ifblank{#2}%
34     {}%
35     {%
36       {\LWRsiunitxdecimal}%
37       \LWRsiunitxprintdecimalsubtwo#2,,\LWRsiunitxENDTWO%
38     }%
39 }}
40
41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
42   \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%
43 }}

```

The following splits by +

```

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
45   \ifblank{#2}%
46     {%
47       \LWRsiunitxprintdecimal{#1}%
48     }% no plus
49     {%

```



```

50         \ifblank{#1}%
51         {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
52         {% a+b
53             \LWRsiunitxprintdecimal{#1}%
54             \unicode{x02B}% plus sign
55             \LWRsiunitxprintdecimal{#2}%
56         }%
57     }%
58 \LWRsiunitxdistribunit%
59 }}

```

The following splits by -

```

60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61     \ifblank{#2}%
62     {\LWRsiunitxnumplus#1+++LWRsiunitxEND}%
63     {%
64         \ifblank{#1}{\LWRsiunitxprintdecimal{#1}}%
65         \unicode{x02212}% mathematical minus sign
66         \LWRsiunitxprintdecimal{#2}%
67         \LWRsiunitxdistribunit%
68     }%
69 }}

```

The following splits by \pm

```

70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71     \ifblank{#2}%
72     {\LWRsiunitxnumminus#1---LWRsiunitxEND}%
73     {%
74         \LWRsiunitxprintdecimal{#1}%
75         \unicode{x0B1}% \pm
76         \LWRsiunitxprintdecimal{#2}%
77         \LWRsiunitxdistribunit%
78     }%
79 }}

```

The following splits by +-

```

80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81     \ifblank{#2}%
82     {\LWRsiunitxnumpmmacro#1\pm\pm\pm\LWRsiunitxEND}%
83     {%
84         \LWRsiunitxprintdecimal{#1}%
85         \unicode{x0B1}% \pm
86         \LWRsiunitxprintdecimal{#2}%
87         \LWRsiunitxdistribunit%
88     }%
89 }}

```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91     \ifblank{#1}%
92     {}%
93     {%
94         \ifstrequal{#1}{-}%
95         {-}%
96         {\LWRsiunitxprintdecimal{#1}\times}%
97     }%
98     10^{\LWRsiunitxprintdecimal{#2}}%
99     \LWRsiunitxdistribunit%
100 }}

```

The following splits by D

```
101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102   \ifblank{#2}%
103     {\LWRsiunitxnump#1+--\LWRsiunitxEND}%
104     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
105 }}
```

The following splits by d

```
106 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
107   \ifblank{#2}%
108     {\LWRsiunitxnumD#1DDD\LWRsiunitxEND}%
109     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
110 }}
```

The following splits by E

```
111 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
112   \ifblank{#2}%
113     {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
114     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
115 }}
```

The following splits by e

```
116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117   \ifblank{#2}%
118     {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
120 }}
```

The following splits by x

```
121 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
122   \ifblank{#2}%
123     {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
124     {%
125       \ifblank{#3}%
126       {%
127         \LWRsiunitxnume#1eee\LWRsiunitxEND%
128         \times%
129         \LWRsiunitxnume#2eee\LWRsiunitxEND%
130       }%
131     }%
132     {\LWRsiunitxnume#1eee\LWRsiunitxEND%
133     \times%
134     \LWRsiunitxnume#2eee\LWRsiunitxEND%
135     \times%
136     \LWRsiunitxnume#3eee\LWRsiunitxEND%
137   }%
138 }%
139 }}
```

```
140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141   \LWRsiunitxnumx#2xxxxx\LWRsiunitxEND%
142 }}
```

\si

[*options*] {*unit*}

~ is converted to a thin space. Not able to convert period to thin space because the period might be in \raiseto, for example.

```
143 \CustomizeMathJax{\newcommand{\si}[2][]{%
```

```
144 \mathrm{\gsubstitute{#2}{~}{\,}}%
145 }}
```

`\SI` [*options*] {*value*} [*prefix*] {*unit*}

`\SI` has a second optional arg, which is parsed using `\ifnextchar`.

```
146 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
147 \def\LWRsiunitxdistribunit{\, \si{#3}}%
148 {#2}\num{#1}%
149 \def\LWRsiunitxdistribunit{}}%
150 }}
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153 \def\LWRsiunitxdistribunit{\, \si{#2}}%
154 \num{#1}%
155 \def\LWRsiunitxdistribunit{}}%
156 }}
157 \CustomizeMathJax{\newcommand{\SI}[2][]{%
158 \ifnextchar[%
159 {\LWRsiunitxSIopt{#2}}%
160 {\LWRsiunitxSI{#2}}%
161 }}
```

`\numlist` [*options*] {*list*}

`\numlist` should only be used in text mode. If used in `MATHJAX`, it is merely printed as text, so add space around the semicolons.

```
162 \CustomizeMathJax{\newcommand{\numlist}[2][]{\text{#2}}}
```

`\numrange` [*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in `MATHJAX` math, an en-dash is used instead of the range-phrase.

```
163 \CustomizeMathJax{\newcommand{\numrange}[3][]{%
164 \num{#2}\LWRsiunitxrangephrase\ \num{#3}%
165 }}
```

`\SIlist` [*options*] {*list*}

`\SIlist` and `\SIrange` should only be used in text mode. If used in `MATHJAX`, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][]{\text{#2}\, \si{#3}}}
```

`\SIrange` [*options*] {*value1*} {*value2*} {*unit*}

```
167 \CustomizeMathJax{\newcommand{\SIrange}[4][]{%
168 \num{#2}\, #4 \LWRsiunitxrangephrase\ \num{#3}\, #4%
169 }}
```

`\tablenum` [*options*] {*value*}

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}
```

```
171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
```

```

174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquereL}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
207 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime}}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{au}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a}_0}}
214 \CustomizeMathJax{\newcommand{\cLlight}{\mathrm{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}_\mathrm{e}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_\mathrm{h}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\unicode{x210F}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
222 \CustomizeMathJax{\let\LRorigbar\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}

```

```

234 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
241 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}

265 \CustomizeMathJax{\newcommand{\per}{\, \mathrm{/}}}

266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}

```

```
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
```

```

351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}

```

---

File 455 **lwarp-skmath.sty**

§ 564 Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

skmath (*Pkg*) skmath is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

`skmath` is using `l3keys`, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```
11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{#{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}
```

If `notation=iso`, use upright, else italic:

```
15 \cs_if_eq:NNTF \__skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16   {
17     \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18     \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19   }
20   {
21     \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22     \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23   }
```

If `notation=iso`, use upright, else italic:

```
24 \cs_if_eq:NNTF \__skmath_natural_log_e: \LWR__skmath_natural_log_e:
25   { \CustomizeMathJax{\newcommand{ee}{\mathit{e}}} }
26   { \CustomizeMathJax{\newcommand{ee}{\mathrm{e}}} }
```

`skmath` uses `\DeclarePairedDelimiter` from `mathtools` for `\abs` and `\norm`, and `lwarp` uses this to automatically define `MATHJAX` definitions for each.

If `notation=english`, use slanted, else upright:

```
27 \cs_if_eq:NNTF \__skmath_integral_d: \LWR__skmath_integral_d:
28   { \CustomizeMathJax{\newcommand{d}{\mathit{d}}} }
29   { \CustomizeMathJax{\newcommand{d}{\mathrm{d}}} }
```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```
31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32   #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36   \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```
38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39   \ifblank{#1}{}
```



```

40     \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41   }
42 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpd denominator#1^#2^#3\LWRskmathEND{%
44   \ifblank{#1}{}%
45     \ifblank{#2}%
46       {\partial{#1}}%
47       {\partial{#1}^{#2}}%
48   }%
49 }}

```

Factored from `\LWRskmathpdnstarsub`, following:

The phrase `^{}^` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51   \partial^{%
52     \def\LWRskmathpdplus{}%
53     \LWRskmathpd numerator#2^{ }^{ }\LWRskmathEND%
54     \def\LWRskmathpdplus{+}%
55     \def\LWRskmathpdone{1}%
56     \LWRskmathpd numerator#3^{ }^{ }\LWRskmathEND%
57     \LWRskmathpd numerator#4^{ }^{ }\LWRskmathEND%
58     \LWRskmathpd numerator#5^{ }^{ }\LWRskmathEND%
59   }%
60   {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64   \LWRskmathpd denominator#1^{ }^{ }\LWRskmathEND%
65   \ifblank{#2}{\,}%
66   \LWRskmathpd denominator#2^{ }^{ }\LWRskmathEND%
67   \ifblank{#3}{\,}%
68   \LWRskmathpd denominator#3^{ }^{ }\LWRskmathEND%
69   \ifblank{#4}{\,}%
70   \LWRskmathpd denominator#4^{ }^{ }\LWRskmathEND%
71 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73   \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74   \frac
75     {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76     {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnstar}[2]{%
80   \LWRskmathpdnstarsub{#1}#2,,,,,\LWRskmathEND%

```

```
81 }}
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}
```

If notation=english or legacy, use slanted, else upright:

```
83 \cs_if_eq:NNTF \__skmath_total_derivative_d: \LWR__skmath_total_derivative_d:
84   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }
```

```
86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87   \frac
88     {\LWRskmathtd^{#3}{#1}}
89     {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93   \LWRskmathtdsub{#1}#2^{}}\LWRskmathEND%
94 }}
```

```
95 \CustomizeMathJax{\newcommand{\E}[1]{%
96   \operatorname{E}\left[#1\right]%
97 }}
```

```
98 \CustomizeMathJax{\let\given\mid}
99
```

```
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101   \operatorname{P}%
102   \left(#1\right)%
103 }}
```

```
104 \CustomizeMathJax{\newcommand{\var}[1]{%
105   \operatorname{Var}\left(#1\right)%
106 }}
```

```
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109   \operatorname{Cov}\left(#1,#2\right)%
110 }}
```

Common code for \sin etc:

```
111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][1]{%
112   \ifblank{#1}{#1}^{#1}%
113   \ifblank{#2}{#2}\left(#2\right)%
114 }}
```

```
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117   \operatorname{#1}%
118   \LWRskmathtrigtwo%
119 }}
```

```
120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
```

```

127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][\%
135   \ifblank{#1}{\_#1}}%
136   \ifblank{#2}{\left(#2\right)}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{\%
140   \operatorname{#1}%
141   \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

```

```

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{\%
146   \operatorname{exp}%
147   \ifblank{#1}{\left(#1\right)}%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{\%
150   \mathchoice
151     {\ee^{#1}}
152     {\LWRskmathexpparens{#1}}
153     {\LWRskmathexpparens{#1}}
154     {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexpnostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][\%
159   \operatorname{\LWRskmathminname}%
160   \ifblank{#1}{\%
161     _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162     }%
163   \ifblank{#2}{\#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][\%
166   \ifblank{#1}{\%
167     \operatorname{\LWRskmathminname}%
168     {\%
169       \underset%
170         {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171         {\operatorname{\LWRskmathminname}}%
172       }%

```

```
173 \ifblank{#2}{\left\{#2\right\}}%
174 }}
```

\LWRskmathminname seems to be recursion-safe since it is used immediately.

```
175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminno star%
178 }}
```

```
179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}
```

```
186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}
```

Remember the original definitions:

```
189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}
```

Redefine depending on notation=iso:

```
191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{\left(#1\right)}%
195 }}
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{\left(#1\right)}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%
202 \operatorname{Re}%
203 \ifblank{#1}{#1}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{#1}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}
```

---

File 456 **lwarp-slantsc.sty**

§ 565 Package **slantsc**

(Emulates or patches code by HARALD HARDERS.)

`slantsc` (*Pkg*) `slantsc` is emulated for HTML, and used as-is for print output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]
2 \newcommand*\LWR@HTML@noscsshape{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify{%
6   \LetLtxMacro\noscsshape\@empty%
7 }
```

---

File 457 **lwarp-slashed.sty**

§ 566 Package **slashed**

(Emulates or patches code by DAVID CARLISLE.)

`slashed` (*Pkg*) `slashed` works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}
```

---

File 458 **lwarp-soul.sty**

§ 567 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

`soul` (*Pkg*) `soul` is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec
```

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}
```

`{\text}`

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

```

\caps                <math>\langle text \rangle</math>

13 \newcommand{\caps}[1]{%
14   \InlineClass%
15   (font-variant:small-caps;letter-spacing:.1ex)%
16   {capsspacing}{#1}%
17 }

\LWR@soulcolor      <math>\langle text \rangle \langle color \rangle \langle class \rangle \langle colorstyle \rangle \langle FormatWPstyle \rangle</math>
Add colors if not empty:

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempy{#2}%
20 {%
21   \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24   \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25   \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{F8E800}}
41 }

Nullified:

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\sless{}

Set colors:

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}

```

```
58 \newcommand*{\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}
```

Long versions of the user-level macros:

```
59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps
```

File 459 **lwarp-soulpos.sty**

§ 568 Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

soulpos (*Pkg*) **soulpos** is emulated.

**for HTML output:**

```
1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%
```

File 460 **lwarp-soulutf8.sty**

§ 569 Package **soulutf8**

soulutf8 (*Pkg*) **soulutf8** is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}
```

File 461 **lwarp-splitbib.sty**

§ 570 Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

`splitbib` (*Pkg*) `splitbib` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]
2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10  text-align:center ;
11  border-top: 1px solid black ;
12  border-bottom: 1px solid black ;
13 ]{splitbibbar}
14   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20  text-align:center ;
21 ]{splitbidash}
22   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27   \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---


File 462 **lwarp-splitidx.sty**

§ 571 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

`splitidx` (*Pkg*) `splitidx` is patched for use by `lwarp`.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

 `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```



where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 695.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

**for HTML output:** `1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]`

```
2 \catcode'\_ =12%
3 \xpatchcmd{\newindex}
4   {\jobname-#2.idx}
5   {\jobname-#2_html.idx}
6   {}
7   {\LWR@patcherror{splitidx}{@newindex}}
8 \catcode'\_ =8%
```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```
9 \renewcommand*{\@wrsindex}[2][\%
10 \ifx\relax#1\relax
11   \if@splitidx
12     \@wrsindex[idx]{#2}%
13   \else
14     \def\@tempa{#2}%
15     \if@verbinde\@onelevel@sanitize\@tempa\fi
16     \@wrindex{\@tempa}%
17   \fi
18 \else
19   \def\@tempa{#2}%
20   \csname index@#1@hook\endcsname
21%   \expandafter\ifx\csname @wrsindex\endcsname\relax
22   \addtocounter{LWR@autoindex}{1}%           lwarp
23%   \@wrsindex{#1}{\@tempa}{\thepage}%
24   \@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}%
25%   \else
26%     \def\@tempb{\@wrsindex{#1}}%
27%     \expandafter\@tempb\@tempa||\%
28%   \fi
```

The label is assigned after the file write to avoid conflict with `cleveref`.

```
29   \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
30   \endgroup
31   \@esphack
32 \fi
33 }
```

`lwarp` defines sectioning commands with `xparse`, so the below patches are done as temporary redefinitions instead of being `\let`.

```
34 \xpatchcmd{\printsubindex}
35   {\let\section\subsection}
36   {\renewcommand*{\section}{\subsection}}
37   {}
38   {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41   {\let\chapter\section}
42   {\renewcommand*{\chapter}{\section}}
```

---

```

43   {}
44   {\LWR@patcherror{splitidx}{printsindex-chapter}}
45
46 \xpatchcmd{\printsindex}
47   {\let\@makechapterhead\section}
48   {\def\@makechapterhead{\section}}
49   {}
50   {\LWR@patcherror{splitidx}{printsindex-chapter}}

```

---

File 463 **lwarp-srcltx.sty**

§ 572 Package **srcltx**

srcltx (*Pkg*) srcltx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*{srcIncludeHook[1]}{}
4 \newcommand*{srcInputHook[1]}{}
5 \newcommand*{MainFile}{}
6 \def{MainFile}{\jobname.tex}
7 \newcommand*{CurrentInput}{}
8 \gdef{CurrentInput}{MainFile}
9 \newcommand{Input}{}
10 \let{Input}\input

```

---

File 464 **lwarp-srctex.sty**

§ 573 Package **srctex**

srctex (*Pkg*) srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
2 \LWR@origRequirePackage{lwarp-srcltx}

---

File 465 **lwarp-stabular.sty**

§ 574 Package **stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

stabular (*Pkg*) stabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [*vpos*] {*colspec*}

```

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[\#1]{\#2}

```

```

5 \renewcommand{\noalign}[1]{
6 }
7 {\end{tabular}}

```

Env `stabular`  $\{\langle width \rangle\} [\langle vpos \rangle] \{\langle colspec \rangle\}$

```

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{
12 }
13 {\end{tabular}}

```

---

File 466 **lwarp-stackengine.sty**

§ 575 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

`stackengine` (*Pkg*) `stackengine` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximages` does not work:

```

2 \LetLtxMacro\LWR@orig@stackengine\stackengine
3 \renewcommand*\stackengine[8]{%
4   \ifstrequal{#4}{0}%
5     {\begin{lateximage}[\ImageAltText]}%
6     {\begin{lateximage}[\ImageAltText][vertical-align:top]}%
7   \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8   \end{lateximage}%
9 }

```

`\@stack` uses a `lateximage` with a vertical alignment:

```

10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13   {}
14   {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*\@stack[4]{%
17   \ifstrequal{#3}{0}%
18     {\begin{lateximage}[\ImageAltText]}%
19     {\begin{lateximage}[\ImageAltText][vertical-align:top]}%
20   \LWR@orig@@stack{#1}{#2}{#3}{#4}%
21   \end{lateximage}%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26   {}
27   {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30   {}
31   {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34   {\begin{lateximage}[\ImageAltText][vertical-align:middle]}
35   {}
36   {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39   {}
40   {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42   {\begin{lateximage}[\ImageAltText][vertical-align:middle]}
43   {}
44   {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47   {}
48   {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50   \xdef\sv@name{\stack@macro@name{#1}}%
51   \ifundefined{\sv@name content}{%
52     \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53   }{}%
54   \begingroup%   lwarp
55   \LWR@restoreorigformatting%   lwarp
56   \RenewDocumentEnvironment{lateximage}{s o s o d()}{}{}% lwarp: inside group
57   \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
58   \expandafter\gdef\expandafter#1\expandafter{%
59     \expandafter\begin\expandafter{lateximage\expandafter}%   lwarp
60     \expandafter\usebox\expandafter%
61     {\csname\sv@name content\endcsname}%
62     \expandafter\end\expandafter{lateximage\expandafter}%   lwarp
63   }%
64   \endgroup%   lwarp
65 }

```

---

File 467 **lwarp-stackrel.sty**

§ 576 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

`stackrel` (*Pkg*) `stackrel` is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4   \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8   \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}
```

---

File 468 **lwarp-stalex2.sty**

§ 577 Package **stalex2**

(Emulates or patches code by RODNEY A SPARAPANI.)

`stalex2` (*Pkg*) `stalex2` is patched for use by `lwarp`, and emulated for MATHJAX.

⚠ As of this version, option `autobold` does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.

⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

⚠ `\and` To have `\and` work if using `\maketitle`, place the following after the start of the document:

```
\newcommand*{\and}{%
  \relax\ifmmode%
    \expandafter\;\mb{\mathrm{and}}\;%
  \else%
    \expandafter\STATEXand%
  \fi%
}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{stalex2}[2011/09/14]
```

```
2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3   \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4   \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9   \textbf{\textcolor{Dandelion}{\textsf{L}\textsubscript{\textit{#1}}}}%
10 }
```

```

11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][]{%
14   \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15   \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\verf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}^{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2][\mb{\mathrm{E}}_{\mb{#1}}]\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][\mb{\mathrm{I}}_{\mb{#1}}]\LWRwrapparen{\mb{#2}}}%
45 \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mb{\frac{\Gamma[#+#2]}{\Gamma[#\Gamma[#2]]}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\;\;\mb{\mathrm{if}}\;\;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline}}
53 \CustomizeMathJax{\newcommand{\ow}{\;\;\mb{\mathrm{otherwise}}\;\;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55   \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58   \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}}%
59 }}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}
62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{#1}}]\wrap{\mb{#2}}}
63 \CustomizeMathJax{\newcommand{\vs}{\;\;\mb{\mathrm{vs.}}\;\;}}
64 \CustomizeMathJax{\newcommand{\where}{\;\;\mb{\mathrm{where}}\;\;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[ #2 \right]]% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left( #1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70

```

```

71 \CustomizeMathJax{\newcommand{\iid}\;\stackrel{\mathrm{iid}}{\sim}\;}
72 \CustomizeMathJax{\newcommand{\ind}\;\stackrel{\mathrm{ind}}{\sim}\;}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74   \;\stackrel{\mathrm{ind}}{\stackrel{\mathrm{prior}}{\sim}}\;}
75 }}
76 \CustomizeMathJax{\newcommand{\post}\;\stackrel{\mathrm{post}}{\sim}\;}
77 \CustomizeMathJax{\newcommand{\prior}\;\stackrel{\mathrm{prior}}{\sim}\;}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mathrm{STATEXGamma}]\LWRwrapparen{\mb{#1}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}\;\mathrm{and}\;}
83 %
84 \CustomizeMathJax{\newcommand{\H}\;\mathrm{H}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mathrm{P}]_{\mb{#1}}\wrap{\mb{#2}}}
87 %
88 \CustomizeMathJax{\newcommand{\|}\;\mathrm{mid}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mathrm{B}}\LWRwrapparen{\mb{#1}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mathrm{BetaBin}}\LWRwrapparen{\mb{#1}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mathrm{Bin}}\LWRwrapparen{\mb{#1},\ #2}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mathrm{Dirichlet}}\LWRwrapparen{\mb{#1}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95   \mathrm{Hypergeometric}}\LWRwrapparen{\mb{#1},\ #2,\ #3}}
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98   \mathrm{Multinomial}}\LWRwrapparen{\mb{#1},\ #2}}
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mathrm{NegBin}}\LWRwrapparen{\mb{#1},\ #2}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mathrm{Poisson}}\LWRwrapparen{\mb{#1}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105   \mathrm{frac}{\Gamma[\#2+1]\Gamma[\#3+1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}%
106   {\Gamma[\#1+1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]}%
107   \I[\#1]{\{\emptyset, 1, \dots, \#2\}}, \where \#3>0, \; \#4>0 \and n=1, 2, \dots}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110   \mathrm{binom}{\#2}{\#1}\#3^{\#1}} \LWRwrapparen{\mb{\{1-\#3\}^{\#2-\#1}}}%
111   \mathrm{I}[\#1]{\{\emptyset, 1, \dots, \#2\}}, \where p \in (\emptyset, 1) \and n=1, 2, \dots}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114   \mathrm{frac}{1}{\#1!}\#2^{\#1}\e^{-\#2}\I[\#1]{\{\emptyset, 1, \dots\}}, \where \#2>0}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mathrm{Cauchy}}\LWRwrapparen{\mb{#1},\ #2}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][\%
120   \chisq_{\mb{#1}}}\LWRwrapparen{\mb{#2}}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mathrm{Beta}}\LWRwrapparen{\mb{#1},\ #2}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mathrm{Exp}}\LWRwrapparen{\mb{#1}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mathrm{F}}\LWRwrapparen{\mb{#1},\ #2}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mathrm{Gamma}}\LWRwrapparen{\mb{#1},\ #2}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{#1}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130   \mathrm{Gamma}^{-1}}\LWRwrapparen{\mb{#1},\ #2}}%

```

```

131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133   \mb{\mathrm{Wishart}^{-1}}\LWRwrapparen{\mb{#1}, \ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136   \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1}, \ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}\!-\!N}}\LWRwrapparen{\mb{#1}, \ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142   \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2}, \ #3}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1}, \ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwrapparen{\mb{#1}, \ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}\LWRwrapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}\LWRwrapparen{\mb{#1}, \ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}\LWRwrapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153   \IBeta{#2}{#3}%
154   #1^{#2-1}\LWRwrapparen{1-#1}^{#3-1}\I[#1]{0, \ 1}, \ \text{where } #2>0 \ \text{and } #3>0}%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157   \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1}^2}}%
158   {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3}^2\right\}}, \ \text{where } #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161   \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e^{-#1/2}}%
162   \I[#1]{0, \infty}, \ \text{where } #2>0}%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165   \frac{1}{#2}\e^{-#1/#2}\I[#1]{0, \infty},%
166   \ \text{where } #2>0}%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169   \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e^{-#3#1}}%
170   \I[#1]{0, \infty}, \ \text{where } #2>0 \ \text{and } #3>0}%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173   \ifthenelse{equal{#2, #3}{0, 1}}%
174   {\frac{1}{\sqrt{2\cpi}}\e^{-#1^2/2}}%
175   {\frac{1}{\sqrt{2\cpi \cdot #3}}\e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178   \frac{#3}{#2}\LWRwrapparen{1+#1/#2}^{#3+1}\I[#1]{0, \infty},%
179   \ \text{where } #2>0 \ \text{and } #3>0}%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182   \ifthenelse{equal{#2, #3}{0, 1}}{\I[#1]{0, \ 1}}%
183   {\frac{1}{#3-#2}\I[#1]{#2, \ #3}, \ \text{where } #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b} [1]{\bar{#1}}}

```



```

191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\,\mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.}{\mb{\ldots}}}
194 \end{warpMathJax}

```


---


File 469 **lwarp-statistics.sty**

§ 578 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

statistics (*Pkg*) statistics is patched for use by lwarp.

 **\color** The statistics documentation examples include the use of the `\color` macro. Use `\textcolor` instead.

 **math** The statistics package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\(` and `\)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \StartDefiningTabulars% lwarp
4 \cs_set_protected_nopar:Nn \__statistics_table_make:nn {
5   \int_compare:nT
6     { 0 < \__statistics_table_maxcols_int
7       = \__statistics_nbvals_int } {
8     \__statistics_table_end:
9     \tl_use:N \__statistics_table_sep_tl
10    \__statistics_table_start:
11   }
12   \int_incr:N \__statistics_nbvals_int
13   \int_incr:N \__statistics_currange_int
14   \fp_add:Nn \__statistics_curtotal_fp { #2 }
15   \__statistics_set_if_shown:N \l_tmpa_bool
16   \tl_set:Nx \l_tmpa_tl {
17     \exp_not:n { & \tl_set:Nn \currentcolumn } {
18       \int_use:N \__statistics_currange_int
19     }
20   }
21   \bool_if:NTF \l_tmpa_bool {
22     \tl_put_right:Nn \l_tmpa_tl
23       { \__statistics_table_shown_format:n }
24   }{
25     \tl_put_right:Nn \l_tmpa_tl

```

```

26         { \__statistics_table_hidden_format:n }
27     }
28     \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29     \bool_if:NT \l__statistics_table_values_bool {
30         \tl_put_right:Nx \l__statistics_table_values_tl {
31             \exp_not:V \l_tmpa_tl {
32                 \exp_not:n {
33                     \__statistics_table_values_format:n { #1 }
34                 }
35             }
36         }
37     }
38     \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n { #2 } }
39     \bool_if:NT \l__statistics_table_counts_bool {
40         \tl_put_right:Nx \l__statistics_table_counts_tl {
41             \exp_not:V \l_tmpa_tl {
42                 \exp_not:n {
43                     \__statistics_table_counts_format:n {
44                         { \__statistics_table_allcounts_format:n { #2 } }
45                     }
46                 }
47             }
48         }
49     }
50     \bool_if:NT \l__statistics_table_icc_bool {
51         \tl_put_right:Nx \l__statistics_table_icc_tl {
52             \exp_not:V \l_tmpa_tl {
53                 \exp_not:n { \__statistics_table_icc_format:n }
54                 {
55                     \exp_not:n{ \__statistics_table_allcounts_format:n }
56                     { \fp_use:N \l__statistics_curtotal_fp }
57                 }
58             }
59         }
60     }
61     \bool_if:NT \l__statistics_table_dcc_bool {
62         \tl_put_right:Nx \l__statistics_table_dcc_tl {
63             \exp_not:V \l_tmpa_tl {
64                 \exp_not:n { \__statistics_table_dcc_format:n }
65                 {
66                     \exp_not:n{ \__statistics_table_allcounts_format:n }
67                     {
68                         \fp_eval:n {
69                             \l__statistics_total_fp
70                             - \l__statistics_curtotal_fp
71                             + #2
72                         }
73                     }
74                 }
75             }
76         }
77     }
78     \fp_set:Nn \l__statistics_table_curICF_fp {
79         round(\l__statistics_curtotal_fp
80             / \l__statistics_total_fp,
81             \l__statistics_table_round_int)
82     }
83     \bool_if:NT \l__statistics_table_frequencies_bool {
84         \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85             \exp_not:V \l_tmpa_tl {

```

```

86         \exp_not:n { \__statistics_table_frequencies_format:n }
87         {
88             \exp_not:n{ \__statistics_table_allfreqs_format:n }
89             {
90                 \fp_eval:n {
91                     \l__statistics_table_curICF_fp
92                     - \l__statistics_table_prevICF_fp
93                 }
94             }
95         }
96     }
97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100     \tl_put_right:Nx \l__statistics_table_icf_tl {
101         \exp_not:V \l_tmpa_tl {
102             \exp_not:n { \__statistics_table_icf_format:n }
103             {
104                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
105                 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106             }
107         }
108     }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111     \tl_put_right:Nx \l__statistics_table_dcf_tl {
112         \exp_not:V \l_tmpa_tl {
113             \exp_not:n { \__statistics_table_dcf_format:n }
114             {
115                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
116                 {
117                     \fp_eval:n {
118                         1 - \l__statistics_table_prevICF_fp
119                     }
120                 }
121             }
122         }
123     }
124 }
125 \fp_set_eq:NN
126     \l__statistics_table_prevICF_fp
127     \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn \__statistics_table_end: {
131     \tl_set:Nx \l__statistics_table_preamble_tl {
132 %         \exp_not:n { \begin{array}[ ]
133         \exp_not:n { \begin{tabular}[ ]% lwarp
134         \exp_not:V \l__statistics_table_valign_tl
135         \exp_not:n { ] }
136         { \exp_not:V \l__statistics_table_headcoltype_tl
137         \prg_replicate:nn { \l__statistics_nbvals_int }
138         { \exp_not:V \l__statistics_table_coltype_tl } }
139     }
140     \seq_clear:N \l__statistics_table_contents_seq
141     \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {

```

```

142     \bool_if:cT { l__statistics_table_##1_bool } {
143         \seq_put_right:Nv
144             \l__statistics_table_contents_seq
145             { l__statistics_table_##1_tl }
146     }
147 }
148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% lwarp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153     \l__statistics_table_contents_seq
154     { \l__statistics_table_newline_tl }
155 \\\
156 % \l__statistics_table_postline_tl
157 \hline% lwarp
158 % \end{array}$
159 \end{tabular}% lwarp
160 }

```

With `lwarp`, `\ensuremath` creates an SVG image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn \l__statistics_table_start: {
162     \int_zero:N \l__statistics_nbvals_int
163     \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164         \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165     }
166     \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167         \tl_set:cx { l__statistics_table_##1_tl } {
168             \exp_not:N \ensuremath {
169                 \exp_not:N \hbox {
170                     \exp_not:c { l__statistics_table_##1_name_tl }
171                 }
172             }
173         }
174     }
175 }

```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand \l__statistics_IN:w { m u{;} u{;} m } {
177 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4% lwarp
179 }
180
181 \l__statistics_setup:nn { table } {
182 % values/format = \ensuremath{#1},
183 values/format = {#1},% lwarp
184 }

```

Added `\ExplSyntaxOn/Off` to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {

```

```

186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
189   \exp_not:n { g__statistics_graph_xstep_ }
190   \int_use:N \g__statistics_graph_last_int
191   \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194   \fp_gset:Nn \g__statistics_graph_xstep_fp
195   { \tl_use:c { \l_tmpa_tl } }
196 }{
197   \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 \__statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201   \cs_if_exist:NF #2 { #2 }
202   \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204   \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp
207 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l__statistics_total_fp
210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213   \__statistics_graph_prepare:n
214   \__statistics_graph_prepare:nn
215   \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220   \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn%   lwarp
222   \__statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff%   lwarp
224   }{
225 \ExplSyntaxOn%   lwarp
226   \__statistics_graph_dopicture_hist:
227 \ExplSyntaxOff%   lwarp
228   }
229 }{
230 \ExplSyntaxOn%   lwarp
231   \__statistics_graph_dopicture_comb:
232 \ExplSyntaxOff%   lwarp
233   }
234 \iow_now:Nx \@auxout {
235   \exp_not:n {
236     \ExplSyntaxOn
237     \tl_gset:cn
238   }
239   {
240     \exp_not:n {g__statistics_graph_xstep_}
241     \int_use:N \g__statistics_graph_last_int
242     \exp_not:n {_tl}
243   }
244   {
245     \fp_to_decimal:N \g__statistics_graph_xstep_fp

```

```

246     }
247     \exp_not:n {
248         \ExplSyntaxOff
249     }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

---

File 470 **lwarp-statmath.sty**

§ 579 Package **statmath**

*(Emulates or patches code by SEBASTIAN ANKARGREN.)*

statmath (*Pkg*) **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@inprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8     {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9     {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}

```

```

39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bf@it{bf}{\}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bf@up*{bf}{\}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 471 **lwarp-steinmetz.sty**

§ 580 Package **steinmetz**

*(Emulates or patches code by ENRICO GREGORIO.)*

steinmetz (*Pkg*) steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

**for HTML output:** 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \renewcommand{\phase}[2][]{%
3   \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]
4   \ensuremath{\underline{/#2}}
5   \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}

```

---

File 472 **lwarp-stfloats.sty**

§ 581 Package **stfloats**

stfloats (*Pkg*) stfloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a *ltj\** class.

The following are provided in case they have not yet been defined:

```

2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

```

6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}

```

---

File 473 **lwarp-struktex.sty**

§ 582 Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

struktex (*Pkg*) struktex is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{struktex}

```

2 \BeforeBeginEnvironment{struktogramm}{%
3   \begin{lateximage}[-struktex-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11   \begin{center}

```



```

12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}

```

---

File 474 **lwarp-subcaption.sty**

§ 583 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

subcaption (*Pkg*) subcaption is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In **HTML** they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3   {\minipagefullwidth}
4   {}
5   {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:

```

6 \xpretocmd{\subcaptionbox}
7   {\minipagefullwidth}
8   {}
9   {\LWR@patcherror{subcaption}{subcaptionbox}}

```


---

File 475 **lwarp-subfig.sty**

§ 584 Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*


subfig (*Pkg*) subfig is supported and patched by lwarp.


 **table numbering** To have correct sub table numbers:

```

\usepackage{caption}
\captionsetup[table]{position=top}

```

 **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

 **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

for HTML output: Accept all options for lwarp-subfig:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

\sf@@@subfloat

```
{\langle 1 type \rangle} [\langle 2 lof entry \rangle] [\langle 3 caption \rangle] {\langle 4 contents \rangle}
```

The outer minipage allows side-by-side subfloats with \hfill between.

```
2 \long\def\sf@@@subfloat#1[#2][#3]#4{%
3 \begin{minipage}{\linewidth}% lwarp

4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stoppars% lwarp
12   \@ifundefined{FBsc@max}{%
13     {\FB@readaux{\let\FBsuboheight\relax}}%
14   \@tempcnta=\@ne
15   \if@minipage
16     \@tempcnta=\z@
17   \else\ifdim \lastskip=\z@ \else
18     \@tempcnta=\tw@
19   \fi\fi
20   \ifmaincaptiontop
21     \sf@top=\sf@nearskip
22     \sf@bottom=\sf@farskip
23   \else
24     \sf@top=\sf@farskip
25     \sf@bottom=\sf@nearskip
26   \fi
27   \leavevmode

28   \setbox\@tempboxa \hbox{#4}%
29   \@tempdima=\wd\@tempboxa
30   \@ifundefined{FBsc@max}{%
31     {\global\advance\Xhsize-\wd\@tempboxa
32     \dimen@=\ht\@tempboxa
33     \advance\dimen@\dp\@tempboxa
34     \ifdim\dimen@>\FBso@max
35       \global\FBso@max\dimen@
36     \fi}%
```

Do not use boxes, which interfere with lateximages:

```
37%   \vtop%
38   \bgroup
39%   \vbox%
40   \bgroup
41   \ifcase\@tempcnta
42     \@minipagefalse
43   \or
44%     \vskip\sf@top
45   \or
46     \ifdim \lastskip=\z@ \else
47%       \@tempskipb\sf@top\relax\@addvskip
48     \fi
49   \fi
```

```

50     \sf@ifpositiontop{%
51         \ifx \@empty#3\relax \else
52             \sf@subcaption{#1}{#2}{#3}%
53 %         \vskip\sf@capskip
54 %         \vskip\sf@captopadj
55         \fi\egroup
56 %         \hrule width0pt height0pt depth0pt
57         \LWR@startpars% lwarp
58 % \box\@tempboxa
59         #4
60         \LWR@stoppars% lwarp
61     }{%
62     \LWR@startpars% lwarp
63     \@ifundefined{FBsc@max}%
64     {
65 % \box\@tempboxa
66         #4
67     }%
68     {\ifx\FBsuboheight\relax
69 %         \box\@tempboxa
70         #4
71     \else
72 %         \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73         #4
74     \fi}%
75     \LWR@stoppars% lwarp
76     \egroup
77     \ifx \@empty#3\relax \else
78 %         \vskip\sf@capskip
79 %         \hrule width0pt height0pt depth0pt
80         \sf@subcaption{#1}{#2}{#3}%
81     \fi
82 }%
83 % \vskip\sf@bottom
84 \egroup
85 \@ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87  \ifnum\c@FRobj=0\else
88  \subfloatrowsep
89  \fi}%
90 \ifmaincaptiontop\else
91   \global\advance\@nameuse{c@\capttype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

\sf@subcaption      {<1 type>} {<2 lof entry>} {<3 caption>}

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100  \bgroup
101  \let\label=\@gobble
102  \let\protect=\string
103  \def\@subcaplabel{%
104  \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
105  \sf@updatecaptionlist{#1}{#2}{\the\value{\capttype}}{\the\value{#1}}%
106  \egroup

```

\sf@subcaption

{<1 type>} {<2 lof entry>} {<3 caption>}

```

107 \fi
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 % \setbox0\vbox{%
113 % \hb@xt@the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{the\@tempdima}{%
117 % \caption@make
118 % {\@nameuse{sub\@capttype name}}%
119 % {\@nameuse{thesub\@capttype}}%
120 % {#3}
121 % }%
122 % \hss
123 % }
124 % }%
125 \@ifundefined{FBsc@max}%
126 % {\box0}%
127 {
128 % \parbox[t]{the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}% lwarp
130 \LWR@figcaption% lwarp
131 \caption@make
132 {\@nameuse{sub\@capttype name}}%
133 {\@nameuse{thesub\@capttype}}%
134 {\LWR@isolate{#3}}%

135 \endLWR@figcaption% lwarp
136 \LWR@traceinfo{sfsubcap B2}% lwarp
137 }%
138 }%
139 {\dimen@ht0%
140 \advance\dimen@\dp0%
141 \ifdim\dimen@>\FBsc@max
142 \global\FBsc@max\dimen@
143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146 \def\next{
147 % \parbox[t]{the\@tempdima}
148 % }%
149 \else
150 \def\next{
151 % \parbox[t][\FBsubcheight][t]{the\@tempdima}
152 % }%
153 \fi
154 % \vbox{%
155 % \hb@xt@the\@tempdima{%
156
157 % \hss
158 % \next}%
159 \LWR@traceinfo{sfsubcap C1}% lwarp
160 \caption@make
161 {\@nameuse{sub\@capttype name}}%
162 {\@nameuse{thesub\@capttype}}%
163 {#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarp
165 % }%

```

```

166 %           \hss
167
168 %   }
169 %           }
170           }%
171   \egroup
172 \LWR@startpars% lwarp
173 }

```

`\subfloat@label`Patches for `\sf@sub@label`:

```

174 \xpretocmd{\subfloat@label}
175   {\LWR@ensuredoingapar}
176   {}
177   {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for `\subref`.`\sf@subref``{\langle label \rangle}`

The unstarred version uses a `\ref` link whose printed text comes from the `sub@<label>`:

```

178 \renewcommand{\sf@subref}[1]{%
179   \LWR@subnewref{#1}{sub@#1}%
180 }

```

`\sf@@subref``{\langle label \rangle}`

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```

181 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}

```

Defining new subfloats. The `l@sub<type>` for each is redefined.

`\@newsubfloat``[{\langle keys/values \rangle}] {\langle float name \rangle}`

```

182 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
183
184 \def\@newsubfloat[#1]#2{%
185   \LWR@orig@newsubfloat[#1]{#2}%
186   \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
187 }

```

Pre-defined for figures and tables:

`\l@subfigure``{\langle text \rangle} {\langle pagenum \rangle}`

```

188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

```

`\l@subtable``{\langle text \rangle} {\langle pagenum \rangle}`

```

189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

```

---

File 476 **lwarp-subfigure.sty**

§ 585 Package **subfigure**

subfigure (*Pkg*) subfigure is emulated by subfig.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}

```

---

File 477 **lwarp-subsubscripts.sty**

§ 586 Package **subsubscripts**

*(Emulates or patches code by RICCARDO BRESCIANI.)*

subsubscripts (*Pkg*) subsubscripts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourscriptsC}[7]{%
5     { }^{#2}_{#3}\hspace{#6}#1\hspace{#7}{ }^{#4}_{#5}%
6   }
7 }
8 \CustomizeMathJax{%
9   \newcommand{\lrsubscriptsC}[5]{%
10    \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
11  }
12 }

```

```

13 \CustomizeMathJax{%
14   \newcommand{\lrsuperscriptsC}[5]{%
15     \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
16   }
17 }
18 \CustomizeMathJax{%
19   \newcommand{\fourscripts}[5]{%
20     \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21   }
22 }
23 \CustomizeMathJax{%
24   \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}}
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{#3}}
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twolscripts}[4][-.16ex]{\fourscripts{#1}{#2}{#3}{#4}\hspace{#1}#2}
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][-.07ex]{#2\hspace{#1}{#3}_{#4}}
34 }
35 \CustomizeMathJax{%
36   \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
40 }
41 \CustomizeMathJax{%
42   \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45   \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
46 }
47 \end{warpMathJax}

```

---

File 478 **lwarp-supertabular.sty**

§ 587 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

supertabular (*Pkg*) supertabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ **Misplaced alignment** For `\tablefirsthead`, etc., enclose them as follows:

```

tab character &
    \StartDefiningTabulars
    \tablefirsthead
    . . .
    \StopDefiningTabulars

```

See section 8.10.1.

⚠ **lateximage** supertabular and xtab are not supported inside a lateximage.

```

2 \newcommand{\LWRST@firsthead}{}

```

```

3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{%
9 \newcommand{\tabletail}[1]{%
10
11 \newcommand{\LWRST@lasttail}{%
12
13 \newcommand{\tablelasttail}[1]{%
14   \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][1]{%
17   \long\gdef\LWRST@caption{%
18     \ifblank{#1}%
19       {\caption{#2}}%
20       {\caption[#1]{#2}}%
21   }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight[1]{%
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```



---

File 479 **lwarp-svg.sty**

§ 588 Package **svg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

svg (*Pkg*) **svg** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]
2 \xpretocmd{\includesvg}%
3   {\begin{lateximage}}%
4   {}%
5   {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8   {\end{lateximage}}%
9   {}%
10  {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13   {\begin{lateximage}}%
14   {}%
15   {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18   {\end{lateximage}}%
19   {}%
20   {\LWR@patcherror{svg}{includeinkscape}}
```

---

File 480 **lwarp-swfigure.sty**

§ 589 Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

swfigure (*Pkg*) **swfigure** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]
2 \NewDocumentEnvironment{DFimage}%
3   {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!|{}}%
4   {%
5     \begin{figure}
6       \centering
7       \includegraphics{#2}
8       \caption[#3]{#4}
9       \IfValueT{#5}{\label{#5}}
10      \end{figure}
11   }%
12   {}%
```

---

File 481 **lwarp-sympytex.sty**

§ 590 Package **sympytex**

*(Emulates or patches code by TIM MOLTEÑO.)*

sympytex (*Pkg*) **sympytex** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

```

2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%
5   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6     }%
7     {%
8       \LWR@forcenewpage%
9       \LWR@atbeginverbatim{verbatim}%
10      }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
15     }%
16     {%
17       \LWR@afterendverbatim%
18     }%
19 }
20
21 }
```

---

File 482 **lwarp-syntonly.sty**

§ 591 Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

syntonly (*Pkg*) **syntonly** is ignored.

**for HTML output:** Discard all options for **lwarp-syntonly**:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntaxonly}{}
6
7 \@onlypreamble\syntaxonly

8 \def\nopages@{}
```

---

File 483 **lwarp-tabfigures.sty**

§ 592 Package **tabfigures**

tabfigures (*Pkg*) tabfigures is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 484 **lwarp-tablefootnote.sty**

§ 593 Package **tablefootnote**

tablefootnote (*Pkg*) tablefootnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

2 \LetLtxMacro\tablefootnote\footnote

---

File 485 **lwarp-tables.sty**

§ 594 Package **tables**

*(Emulates or patches code by DONALD ARSENEAU.)*

tables (*Pkg*) tables is emulated. \LWR@hline is used to handle the optional argument when tables is loaded.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tables}

2 \newdimen\tablineseq  
3 \newdimen\arraylineseq  
4 \newdimen\extraruleseq

---

File 486 **lwarp-tabularx.sty**

§ 595 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

tabularx (*Pkg*) tabularx is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-tabularx:

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}

`\tabularxcolumn` is ignored. All X columns will be p for now. The width is ignored.

```

3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumnntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6   {\tabular{#3}}
7   {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10  {\tabular{#3}}
11  {\endtabular}

```

---

File 487 **lwarp-tabulary.sty**

§ 596 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

`tabulary (Pkg)` `tabulary` is emulated by `lwarp`.

**for HTML output:** Discard all options for `lwarp-tabulary`.

Column types L, C, R, and J are emulated by `lwarp` core code.

```

1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}

10 \newcolumnntype{L}{L}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{L}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

---

File 488 **lwarp-tagpdf.sty**

§ 597 Package **tagpdf**

`tagpdf (Pkg)` `tagpdf` adds alt text, for images only. (HTML only has alternate text for images.)

The overall strategy is that tagpdf is deactivated, and slightly patched to process alt tags. Also see tagpdf-base, tagpdf-mc-code-generic, and tagpdf-mc-code-lua, following tagpdf.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tagpdf}[2022-08-24]

2 \ExplSyntaxOn
3
4 \keys_define:nn { __tag / struct }
5 {
6   alt .code:n      = % Alt property
7   {
8     \str_set_convert:Noon
9     \l__tag_tmpa_str
10    { #1 }
11    { default }
12    { utf16/hex }
13    \__tag_prop_gput:cnx
14    { g__tag_struct_\int_eval:n {\c@g__tag_struct_abs_int}_prop }
15    { Alt }
16    { <\l__tag_tmpa_str> }
17    \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%      lwarp
18  },
19 }
20
21 \ExplSyntaxOff

```

The package is deactivated on load, and also each time \tagpdfsetup is used.

```
22 \LWR@tagpdf@deactivate
```

---

File 489 **lwarp-tagpdf-base.sty**

§ 598 Package **tagpdf-base**

*(Emulates or patches code by ULRIKE FISCHER.)*

tagpdf-base (*Pkg*) **tagpdf-base** is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tagpdf-base}[2022-08-24]

2 \ExplSyntaxOn
3
4 \newcommand*{\LWR@tagpdf@deactivate}{
5   \keys_set:nn { __tag / setup } {
6     activate-space = false ,
7     activate-mc = false ,
8     activate-tree = false ,
9     activate-struct = false
10  }
11 }
12
13 \RenewDocumentCommand \tagpdfsetup { m }{
14   \keys_set:nn { __tag / setup } { #1 }
15   \LWR@tagpdf@deactivate
16 }

```

```

17
18 \RenewDocumentCommand \tagmcbegin { m }
19 {
20 %   \tag_mc_begin:n {#1}
21   \keys_set:nn { __tag / mc } {#1}
22 }
23
24 \RenewDocumentCommand \tagmcend { }
25 {
26 %   \tag_mc_end:
27   \ThisAltText{}%   lwarp
28 }
29
30 \RenewDocumentCommand \tagmcuse { m }
31 {
32 %   \tag_mc_use:n {#1}
33 }
34
35 \RenewDocumentCommand \tagstructbegin { m }
36 {
37   \keys_set:nn { __tag / struct } { #1 }%   lwarp
38 %   \tag_struct_begin:n {#1}
39 }
40
41 \RenewDocumentCommand \tagstructend { }
42 {
43 %   \tag_struct_end:
44   \ThisAltText{}%   lwarp
45 }
46
47 \RenewDocumentCommand \tagstructuse { m }
48 {
49 %   \tag_struct_use:n {#1}
50 }
51
52 \ExplSyntaxOff

```

---

File 490 **lwarp-tagpdf-mc-code-generic.sty**

§ 599 Package **tagpdf-mc-code-generic**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-mc-code-generic (*Pkg*) tagpdf-mc-code-generic is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tagpdf-mc-code-generic}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 % From tagpdf-mc-code-generic.sty:
5 \keys_define:nn { __tag / mc }
6 {
7   alt .code:n      = % Alt property
8   {
9 %     \str_set_convert:Noon
10 %     \l__tag_tmpa_str
11 %     { #1 }

```

```

12%         { default }
13%         { utf16/hex }
14%         \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
15%         \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
16%         \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%         lwarp
17%     },
18% }
19
20 \ExplSyntaxOff

```

---

File 491 **lwarp-tagpdf-mc-code-lua.sty**

§ 600 Package **tagpdf-mc-code-lua**

*(Emulates or patches code by ULRIKE FISCHER.)*

tagpdf-mc-code-lua (*Pkg*) tagpdf-mc-code-lua is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tagpdf-mc-code-lua}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 \keys_define:nn { __tag / mc }
5 {
6   alt .code:n      = % Alt property
7   {
8     \str_set_convert:Noon
9     \l__tag_tmpa_str
10    { #1 }
11    { default }
12    { utf16/hex }
13    \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
14    \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
15    \lua_now:e
16    {
17      ltx.__tag.func.store_mc_data
18      (
19        \__tag_get_mc_abs_cnt:,"alt","/Alt~<\str_use:N \l__tag_tmpa_str>"
20      )
21    }
22    \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%         lwarp
23  },
24 }
25
26 \ExplSyntaxOff

```

---

File 492 **lwarp-tascmac.sty**

§ 601 Package **tascmac**

tascmac (*Pkg*) tascmac is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```
2 \newenvironment*{boxnote}
3   {
4     \BlockClass[
5       padding: .5ex ;
6       border: 1px solid black ;
7       border-top: 1px dashed black ;
8     ]{boxnote}
9   }
10  {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13   {
14     \BlockClass[
15       padding: .5ex ;
16       border: 1px solid gray ;
17       border-radius: 8pt
18     ]{boxnote}
19   }
20  {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23   {
24     \BlockClass[
25       padding: .5ex ;
26       border: 1px solid gray ;
27       border-radius: 8pt
28     ]{boxnote}
29     \InlineClass{itemboxtitle}{#2}\par
30   }
31  {\endBlockClass}
32
33 \newenvironment*{shadebox}
34   {
35     \BlockClass[
36       padding: .5ex ;
37       border: 1px solid black ;
38       box-shadow: 3px 3px 3px \#808080 ;
39     ]{boxnote}
40   }
41  {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44   \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48   \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52   \InlineClass[
53     background: lightgray ;
54     border: #5 solid black
55   ]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59   \InlineClass[%
60     padding: .2ex ;
61     border: 1px solid black ;
```



```

62     border-radius: .7ex ;
63   ][keytop]{#2}%
64 }
65
66 \def\yen{\HTMLunicode{00A5}}
67
68 \def\return{\HTMLunicode{23CE}}
69
70 \def\Return{\HTMLunicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

File 493 **lwarp-tcolorbox.sty**

§ 602 Package **tcolorbox**

*(Emulates or patches code by THOMAS F. STURM.)*

tcolorbox (*Pkg*) tcolorbox is patched for use by lwarp.

See section [8.3.8](#) for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2023/02/12]

```

2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}

```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5   \convertcolorspec{named}{tbcback}{HTML}\LWR@tbcback
6   \convertcolorspec{named}{tbcframe}{HTML}\LWR@tbcframe
7   \iftcb@titlefilled%
8     \convertcolorspec{named}{tbcbacktitle}{HTML}\LWR@tbcbacktitle
9   \else
10    \convertcolorspec{named}{tbcframe}{HTML}\LWR@tbcbacktitle
11  \fi
12  \convertcolorspec{named}{tbctitle}{HTML}\LWR@tbctitle
13  \convertcolorspec{named}{tbcupper}{HTML}\LWR@tbcupper
14  \convertcolorspec{named}{tbcollower}{HTML}\LWR@tbcollower
15 }
16
17 \newcommand*\LWR@tcolorbox@titlecolorstyles{%
18   border-top: 1px solid \LWR@origpound\LWR@tbcframe ;
19   border-bottom: 1px solid \LWR@origpound\LWR@tbcframe ;
20   background: \LWR@origpound\LWR@tbcbacktitle ;
21   color: \LWR@origpound\LWR@tbctitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*\LWR@showtitle@[1]{%

```

```

24 \begin{BlockClass}[
25     \LWR@tcolorbox@titlecolorstyles
26 ]{tcolorboxtitle}
27 %             \cmdKV@LWR@tcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32     \iftcb@titlevisible
33     \LWR@showtitle@{#1}
34     \else
35     \LWR@showtitle@{~}
36     \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 %     \sbox\tcb@phantombox{\kvtcb@phantom}%
41 %     \iftcb@hasPhantom%
42 %         \box\tcb@phantombox%
43 %         \tcb@hasPhantomfalse%
44 %     \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{
49     \LWR@tcolorbox@findcolors
50     \begin{BlockClass}[
51         border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52         background: \LWR@origpound\LWR@tcbcolback ;
53     ]{#1}
54     \LWR@tcolorbox@dophantom
55     \ifdefined\kvtcb@title
56     {
57         {
58             \LWR@showtitle{\kvtcb@title}
59         }
60     \begin{BlockClass}[
61         color: \LWR@origpound\LWR@tcbcolupper ;
62     ]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65     \ifx\kvtcb@float\empty%
66 %         \tcb@set@normal@unbroken@beforeafter%
67     \else%
68 %         \edef\tcb@before@unbroken{%
69 %             \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 %             \noexpand\kvtcb@everyfloat%
71 %         }%

```

```

72 %      \let\tcb@after@unbroken=\tcb@float@env@end%
73      \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74      \noexpand\kvtcb@everyfloat
75      \fi%
76 }
77
78 \newcommand*\LWR@tcolorbox@doendfloat}{%
79   \ifx\kvtcb@float\@empty%
80     \else%
81       \tcb@float@env@end%
82     \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][[]
85   {
86     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87     {
88       \PackageError{lwarp}
89         {%
90           Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91             or SVG math.\MessageBreak
92             Enter 'H' for possible solutions%
93         }
94       {%
95         Use \protect\tcbox, \protect\tcboxmath, or
96         \protect\tcbhighmath\space instead.\MessageBreak%
97         (Inside math, you probably want to use these anyhow.)%
98       }
99     }{\relax}
100     \LWR@printpendingfootnotes
101     \tcb@layer@inc
102     \tcb@apply@box@options{#1}
103     \LWR@tcolorbox@dostartfloat%
104 %     \tcbset{title=#1}
105     \boolfalse{LWR@havetcblower}
106     \LWR@tcolorboxstart{tcolorbox}
107     \tcb@insert@before@upper%
108   }
109   {
110     \ifbool{LWR@havetcblower}{%
111       \tcb@insert@after@lower%
112     }{%
113       \tcb@insert@after@upper%
114     }%
115     \end{BlockClass}
116     \LWR@printpendingfootnotes
117     \tcb@layer@dec
118     \end{BlockClass}
119     \LWR@tcolorbox@doendfloat%
120   }

```

For the lower part, the upper part is finished then the lower is started. `\tcblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```

121 \newcommand{\tcblower}{
122   \tcb@insert@after@upper%
123   \end{BlockClass}
124   \begin{BlockClass}[%
125     border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126     color: \LWR@origpound\LWR@tcbcollower ;
127   ]{tcolorboxlower}
128   \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{
132   \newcommand*\LWR@sub@tcbline}{%
133     \begin{BlockClass}{hrule}
134     \end{BlockClass}
135   }
136   \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
137   \LWR@formatted{tcbline}
138 }{}
139 }
140
141 \newcommand{\LWR@HTML@tcbbox}[2][{}]{
142   \LWR@printpendingfootnotes
143   \LWR@tcolorbox@dostartfloat%
144   \begingroup
145   \tcb@layer@inc
146   \tcb@apply@box@options{#1}
147 %   \tcbset{title=#1}
148   \boolfalse\LWR@havetcblower}
149   \LWR@tcolorboxstart{tcolorbox inlineminipage}
150   \tcb@insert@before@upper%
151   #2
152   \ifbool\LWR@havetcblower}{%
153     \tcb@insert@after@lower%
154   }{%
155     \tcb@insert@after@upper%
156   }%
157   \end{BlockClass}
158   \LWR@printpendingfootnotes
159   \end{BlockClass}
160   \tcb@layer@dec%
161   \endgroup%
162   \LWR@tcolorbox@dostartfloat%
163   \global\booltrue\LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbbox}
166
167 \appto\LWR@restoreMathJaxformatting{%
168   \renewcommand{\tcbbox}[2][{}]{#2}%
169 }

```

Patches for the subtitle, which is placed inside a `<div>` of class `tcolorboxsubtitle`.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173   {}
174   {\LWR@patcherror{tcolorbox}{tcbsubtitle}}

```

```

175
176 \xpatchcmd{\tcbsubtitle}
177   {\endgroup}
178   {\end{BlockClass}\endgroup}
179   {}
180   {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

`\tcboxfit` is the same as `\tcbox`.

```

181 \AtBeginDocument{
182   \ifdef{\tcboxfit}{%
183     \let\LWR@HTML@tcboxfit\tcbox%
184     \LWR@formatted{tcboxfit}
185   }{}
186 }

```

`\tcbttitle` is patched to support the text font.

```

187 \LetLtxMacro\LWR@HTML@tcbttitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbttitle}
189   {\tcb@insert@before@title\tcbtitletext}
190   {\tcb@insert@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
191   {}
192   {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbttitle}}
193 \LWR@formatted{tcbttitle}

```

List-of:

```

194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}

```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```

195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}{
197
198   \def\LWR@HTML@tcb@hack@amsmath{%
199     \PackageError{lwarp}
200     {%
201       tcolorbox ‘math’, ‘ams equation’, and related\MessageBreak
202       are not supported.\MessageBreak
203       \protect\tcboxmath\space and
204       \protect\tcbhighmath\space are emulated.\MessageBreak
205       Enter ‘H’ for possible solutions%
206     }
207     {%
208       Remove tcolorbox math-related options, and instead\MessageBreak
209       use the usual math environments inside each tcolorbox.%
210     }
211   }
212   \LWR@formatted{tcb@hack@amsmath}
213
214   % Cause an error if using math:
215   \tcbset{%
216     math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217     math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218   }
219
220   \appto\LWR@restoreorigformatting{%

```

```

221 \tcbset{%
222     math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223     math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }%
225 }
226
227 \newcommand{\LWR@HTML@tcboxmath}[2][\#2]
228 \LWR@formatted{tcboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][\#2]
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232     \renewcommand{\tcboxmath}[2][\#2]%
233     \renewcommand{\tcbhighmath}[2][\#2]%
234 }
235 }{% theorems loaded
236 }% AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
239 \CustomizeMathJax{\newcommand{\tcbox}[2][\boxed{\text{\#2}}]}
240 \CustomizeMathJax{\newcommand{\tcboxfit}[2][\boxed{\#2}]}
241 \CustomizeMathJax{\newcommand{\tcbLower}{}}
242 \CustomizeMathJax{\newcommand{\tcbLine}{}}
243 \CustomizeMathJax{\newcommand{\tcbTitle}{}}
244 \CustomizeMathJax{\newcommand{\tcbSubTitle}[2][\mathrm{\#2}]}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][\boxed{\#2}]}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{\#2}]}

```


---

File 494 **lwarp-tensor.sty**

§ 603 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

tensor (*Pkg*) **tensor** is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesub#1#2{\_{\#2}}\LWRtensorindicesubthree}}
4 \CustomizeMathJax{\def\LWRtensorindicesup#1#2{\^{\#2}}\LWRtensorindicesubthree}}

```

If not a superscript nor a subscript, processing stops.

```

5 \CustomizeMathJax{\newcommand{\LWRtensorindicesubthree}{} }

```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsup}{
7   \ifnextchar ^ \LWRtensorindicesthreesup \LWRtensorindicesthreenotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{
11   \ifnextchar _ \LWRtensorindicesthreesub \LWRtensorindicesthreenotsub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo}{
14   \ifstar\LWRtensorindicesthree\LWRtensorindicesthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicestwo#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][[]]{{\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an SVG image.

```
19 \CustomizeMathJax{%
20   \newcommand{\LWRnuclidetwo}[2][[]]{%
21     {%
22       \vphantom{\mathrm{#2}}%
23       }^{\LWRtensornucleonnumber}_{#1}%
24       \mathrm{#2}%
25     }%
26   }%
27 }

28 \CustomizeMathJax{%
29   \newcommand{\nuclide}[1][[]]{%
30     \def\LWRtensornucleonnumber{#1}%
31     \LWRnuclidetwo%
32   }%
33 }
34 \end{warpMathJax}
```

---

File 495 **lwarp-termcal.sty**

§ 604 Package **termcal**

(Emulates or patches code by BILL MITCHELL.)

termcal (*Pkg*) **termcal** is patched for use by **lwarp**.

**for HTML output:** 1\LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```
2 \xpatchcmd{\endcalendar}
3   {@{}}
4   {}
5   {}
6   {\LWR@patcherror{termcal}{endcalendar}}
```

Remove the hbox:

```
7 \xpatchcmd{\ca@doaday}
8   {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9   {%
10      \calprintdate\hfill\ifclassday\calprintclass\fi%
11   }
12   {}
13   {\LWR@patcherror{termcal}{ca@doaday}}
```

Change each of two ampersands to call the lwarp tabular version:

```
14 \xpatchcmd{\calday}
15   {&}
16   {\LWR@tabularampersand}
17   {}
18   {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21   {&}
22   {\LWR@tabularampersand}
23   {}
24   {\LWR@patcherror{termcal}{calday B}}
```

---

File 496 **lwarp-textarea.sty**

§ 605 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

textarea (*Pkg*) **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\@empty
```

---

File 497 **lwarp-textcomp.sty**

§ 606 Package **textcomp**

*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*




textcomp (*Pkg*) textcomp is patched for use by lwarp.

For MATHJAX, the MATHJAX package is used.

### § 606.1 Limitations

Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system/browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

### § 606.2 Package loading

**for HTML output:** `1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]`

### § 606.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for Lua $\LaTeX$  and Xe $\LaTeX$ .

#### § 606.3.1 pdf $\LaTeX$ symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdf $\LaTeX$  or dvi $\LaTeX$ 
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLUnicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLUnicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLUnicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLUnicode{2045}}
9 \newcommand*\LWR@HTML@textrquill{\HTMLUnicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLUnicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLUnicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLUnicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLUnicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLUnicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLUnicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLUnicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLUnicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLUnicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLUnicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLUnicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLUnicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\%}
23 \newcommand*\LWR@HTML@textservicemark{\HTMLUnicode{2120}}
24 \else

```

#### § 606.3.2 Xe $\LaTeX$ and Lua $\LaTeX$ symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree{°}
26 \newcommand*\LWR@HTML@textcelsius{°C}
27 \newcommand*\LWR@HTML@textohm{Ω}

```

```

28 \newcommand*\LWR@HTML@textmu}{μ}
29 \newcommand*\LWR@HTML@textlquill}{ℚ}
30 \newcommand*\LWR@HTML@textrquill}{ℚ}
31 \newcommand*\LWR@HTML@textcircledP}{Ⓟ}
32 \newcommand*\LWR@HTML@texttwelveudash}{–}% emdash
33 \newcommand*\LWR@HTML@textthreequartersemdash}{—}% emdash
34 \newcommand*\LWR@HTML@textmho}{℧}
35 \newcommand*\LWR@HTML@textnaira}{₦}
36 \newcommand*\LWR@HTML@textpeso}{₱}
37 \newcommand*\LWR@HTML@textrecipe}{℞}
38 \newcommand*\LWR@HTML@textinterrobang}{‽}
39 \newcommand*\LWR@HTML@textinterrobangdown}{‿}
40 \newcommand*\LWR@HTML@textperthousand}{‰}
41 \newcommand*\LWR@HTML@textpertenthousand}{‱}
42 \newcommand*\LWR@HTML@textbaht}{฿}
43 \newcommand*\LWR@HTML@textdiscount}{\%}
44 \newcommand*\LWR@HTML@textservicemark}{℠}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 606.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}

```

Nullify `textcomp` macros when generating filenames:

```

99 \FilenameNullify{%
100   \renewcommand*\textdegree{}%
101   \renewcommand*\textcelsius{}%
102   \renewcommand*\textohm{}%
103   \renewcommand*\textmu{}%
104   \renewcommand*\textlquill{}%
105   \renewcommand*\textrquill{}%
106   \renewcommand*\textcircledP{}%
107   \renewcommand*\texttwelveudash{}%
108   \renewcommand*\textthreequartersemdash{}%
109   \renewcommand*\textmho{}%
110   \renewcommand*\textnaira{}%
111   \renewcommand*\textpeso{}%
112   \renewcommand*\textrecipe{}%
113   \renewcommand*\textinterrobang{}%
114   \renewcommand*\textinterrobangdown{}%
115   \renewcommand*\textperthousand{}%
116   \renewcommand*\textpertenthousand{}%
117   \renewcommand*\textbaht{}%
118   \renewcommand*\textdiscount{}%
119   \renewcommand*\textservicemark{}%
120   \renewcommand*\textcircled}[1]{#1}%
121   \renewcommand*\capitalcedilla}[1]{#1}%
122   \renewcommand*\capitalogonek}[1]{#1}%
123   \renewcommand*\capitalgrave}[1]{#1}%
124   \renewcommand*\capitalacute}[1]{#1}%
125   \renewcommand*\capitalcircumflex}[1]{#1}%
126   \renewcommand*\capitaltilde}[1]{#1}%
127   \renewcommand*\capitaldieresis}[1]{#1}%
128   \renewcommand*\capitalhungarumlaut}[1]{#1}%
129   \renewcommand*\capitalring}[1]{#1}%
130   \renewcommand*\capitalcaron}[1]{#1}%
131   \renewcommand*\capitalbreve}[1]{#1}%
132   \renewcommand*\capitalmacron}[1]{#1}%
133   \renewcommand*\capitaldotaccent}[1]{#1}%

```

```

134 }% FilenameNullify
135
136 }% AtBeginDocument

```

For MATHJAX:

```

137 \CustomizeMathJax{\require{textcomp}}

```

File 498 **lwarp-textfit.sty**

§ 607 Package **textfit**

`textfit` (*Pkg*) `textfit` is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

```

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7   1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }

```

File 499 **lwarp-textpos.sty**

§ 608 Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

`textpos` (*Pkg*) `textpos` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

```

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3][[]{}

```

```

5 \def\TPShowGrid{\ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblockrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand*\textblocklabel[1]{}
18 \newcommand*\showtextsize{}
19 \newcommand*\textblockorigin[2]{}
20 \newcommand*\TPOptions[1]{}
21 \newcommand*\TPReferencePosition[1]{}

```

---

File 500 **lwarp-theorem.sty**

§ 609 Package **theorem**

*(Emulates or patches code by FRANK MITTELBACH.)*

theorem (*Pkg*) **theorem** is patched for use by **lwarp**.

---

Table 21: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

**for HTML output:** 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

### § 609.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4   \ifundefined{th@#1}{\@warning
5     {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6     \theoremstyle{plain}%
7     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8     }%
9   {%
10    \theoremstyle{#1}%
11    \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12    }%
13  \begingroup

```

```

14     \csname th@the\theorem@style \endcsname
15     \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\@xnthm#1#2[#3]{%
17   \expandafter\@ifdefinable\csname #1\endcsname
18   {%
19     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
20     \@definecounter{#1}\@newctr{#1}[#3]%
21     \expandafter\xdef\csname the#1\endcsname
22       {\expandafter \noexpand \csname the#3\endcsname
23         \@thmcountersep \@thmcounter{#1}}%
24     \def\@tempa{\global\@namedef{#1}}%
25     \expandafter \@tempa \expandafter{%
26       \csname th@the \theorem@style
27         \expandafter \endcsname \the \theorem@bodyfont
28         \@thm{#1}{#2}}%
29     \global \expandafter \let \csname end#1\endcsname \@endtheorem
30     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31   }}
32
33 \gdef\@ynthm#1#2{%
34   \expandafter\@ifdefinable\csname #1\endcsname
35   {
36     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
37     \@definecounter{#1}%
38     \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
39     \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
40     \expandafter{\csname th@the \theorem@style \expandafter
41       \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42     \global \expandafter \let \csname end#1\endcsname \@endtheorem
43     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44   }}
45
46 \gdef\@othm#1[#2]#3{%
47   \expandafter\ifx\csname c@#2\endcsname\relax
48     \@nocounterr{#2}%
49   \else
50     \expandafter\@ifdefinable\csname #1\endcsname
51     {
52       \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
53       \expandafter \xdef \csname the#1\endcsname
54         {\expandafter \noexpand \csname the#2\endcsname}%
55       \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
56       \expandafter{\csname th@the \theorem@style \expandafter
57         \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58       \global \expandafter \let \csname end#1\endcsname \@endtheorem
59       \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60     }%
61   \fi}

```

§ 609.2 **css patches**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

62 \gdef\th@plain{%
63   \def\@begintheorem##1##2{%
64     \item[
65       \InlineClass{theoremheader}{##1\ ##2}
66     ]
67   }%
68 \def\@opargbegintheorem##1##2##3{%
69   \item[
70     \InlineClass{theoremheader}{##1\ ##2\ (##3)}
71   ]
72   }
73 }
74
75 \gdef\th@break{%
76   \def\@begintheorem##1##2{%
77     \item[
78       \InlineClass{theoremheader}{##1\ ##2}\newline%
79     ]
80   }%
81 \def\@opargbegintheorem##1##2##3{%
82   \item[
83     \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
84   ]
85   }
86 }
87
88 \gdef\th@marginbreak{%
89   \def\@begintheorem##1##2{
90     \item[
91       \InlineClass{theoremheader}{##2 \quad ##1}\newline
92     ]
93   }%
94 \def\@opargbegintheorem##1##2##3{%
95   \item[
96     \InlineClass{theoremheader}{##2 \quad ##1\ %
97     (##3)}\newline
98   ]
99   }
100 }
101
102 \gdef\th@changebreak{%
103   \def\@begintheorem##1##2{
104     \item[
105       \InlineClass{theoremheader}{##2\ ##1}\newline
106     ]
107   }%
108 \def\@opargbegintheorem##1##2##3{%
109   \item[
110     \InlineClass{theoremheader}{ ##2\ ##1\ %

```

```

111         (##3)}\newline
112     ]
113 }
114 }
115
116 \gdef\th@change{%
117   \def\@begintheorem##1##2{
118     \item[
119       \InlineClass{theoremheader}{##2\ ##1}
120     ]
121   }%
122 \def\@opargbegintheorem##1##2##3{%
123   \item[
124     \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125   ]
126 }
127 }
128
129 \gdef\th@margin{%
130   \def\@begintheorem##1##2{
131     \item[
132       \InlineClass{theoremheader}{##2 \quad ##1}
133     ]
134   }%
135 \def\@opargbegintheorem##1##2##3{%
136   \item[
137     \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
138   ]
139 }
140 }

    Patched for css:

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp

143   \LWR@printpendingfootnotes%           lwarp

144   \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
145   \trivlist
146   \@topsep \theorempreskipamount        % used by first \item
147   \@topsepadd \theorempostskipamount    % used by \@endparenv
148   \ifnextchar [%
149     {\@ythm{#1}{#2}}%
150     {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
151
152 \gdef\@endtheorem{%
153 \endtrivlist

154   \LWR@printpendingfootnotes%           lwarp

155 \endBlockClass
156 }

```



---

File 501 **lwarp-thinsp.sty**

§ 610 Package **thinsp**

`thinsp (Pkg)` `thinsp` is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

2 \AtBeginDocument{
3 \let\thinthispace\relax% defined by some packages
4 \newcommand*\thinthispace{\thinspace}
5 }
6
7 \newcommand*\stretchthispace{\thinspace}
8 \newcommand*\stretchthinthispace{\thinthispace}
9 \newcommand*\stretchnegthispace{\negthinspace}

```

---

File 502 **lwarp-thm-listof.sty**

§ 611 Package **thm-listof**

*(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)*

`thm-listof (Pkg)` `thm-listof` is part of `thmtools`, and is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

```

For font control, see the generated HTML and use CSS per `amsthm` or `ntheorem`.

Other `thm-*` package may be loaded by `thm-listof`.

```

2 \IfPackageAtLeastTF{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \patchcmd{\listoftheorems}
8 {%
9 \xa\protected@edef\csname l@thmt@envname\endcsname{%
10 \nx\@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
11 }%
12 }
13 {%
14 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15 }
16 {}
17 {\LWR@patcherror{thm-listof}{listoftheorems}}
18
19 \patchcmd{\thmt@mklstcmd}
20 {%
21 \xa\protected@edef\csname l@thmt@envname\endcsname{%
22 \nx\@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%

```

```

23         }%
24     }
25     {%
26     \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27     }
28     {}
29     {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
30 }

```

---

File 503 **lwarp-thm-restate.sty**

§ 612 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thm-restate (*Pkg*) **thm-restate** is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]
2 \xpatchcmd{\thmt@restatable}
3   {\@ifstar}
4   {\edef\LWR@thisthmstyle{#2}\@ifstar}
5   {}
6   {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

File 504 **lwarp-thmbox.sty**

§ 613 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

thmbox (*Pkg*) **thmbox** is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]
2 \renewenvironment{thmbox}[2][]%
3   {%
4     \begin{BlockClass}{thmbox}
5     \begin{BlockClass}{thmboxtitle}
6     #2
7     \end{BlockClass}
8   }
9   {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][%
12   {%
13     \begin{BlockClass}{thmboxproof}%
14     \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,:}
15   }
16   {%
17     \quad\HTMLUnicode{220E}
18     \end{BlockClass}
19   }
20

```

```

21 \renewenvironment{example}[1][\examplename]%
22   {%
23     \begin{BlockClass}{thmboxexample}%
24     \InlineClass{thmboxexamplename}{#1\, :}
25   }
26   {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]%
29   {\begin{BlockClass}{thmboxleftbar}}
30   {\end{BlockClass}}

```

---

File 505 **lwarp-thmtools.sty**

§ 614 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thmtools (*Pkg*) thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3   \InlineClass{amsthmnumbertheorem}{\NUMBER}
4   \
5   \InlineClass{amsthmnametheorem}{\NAME}
6   \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 506 **lwarp-threadcol.sty**

§ 615 Package **threadcol**

threadcol (*Pkg*) threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```

2 \newcommand{\setthreadname}[1]{ }

```

---

File 507 **lwarp-threeparttable.sty**

§ 616 Package **threeparttable**

*(Emulates or patches code by DONALD ARSENEAU.)*

threeparttable (*Pkg*) threeparttable is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

```

Env threeparttable      [⟨alignment⟩]

2 \newenvironment*{threeparttable}[1][b]
3   {\def\@capttype{table}}
4   {}

Env tablenotes         [⟨options⟩]

5 \newenvironment*{tablenotes}[1][
6  {%
7  \LWR@forcenewpage
8  \BlockClass{tnotes}%
9  \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

\tnote                 {⟨text⟩}

15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

Env measuredfigure     [⟨alignment⟩]

16 \newenvironment*{measuredfigure}[1][t]
17   {\def\@capttype{figure}}
18   {}

```

---

File 508 **lwarp-threeparttablex.sty**

§ 617 Package **threeparttablex**

threeparttablex (*Pkg*) threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}[column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]`

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3   \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4   \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5   \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7     \parbox{\LWR@templengthone}{%
8       \begin{tablenotes}[\TPTL@optarg]%
9         \TPTL@font%
10        \TPTL@body%
11        \end{tablenotes}%
12      }%
13    }%
14 }

15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}

```

---

File 509 **lwarp-thumb.sty**

§ 618 Package **thumb**

`thumb (Pkg)` thumb is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{thumb}[1997/12/24]`

```
2 \newcommand*\Overviewpage{}
```

```
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

File 510 **lwarp-thumbs.sty**

§ 619 Package **thumbs**

`thumbs` (*Pkg*) `thumbs` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```
2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}

```


---

File 511 **lwarp-tikz.sty**

§ 620 Package **tikz**

*(Emulates or patches code by TILL TANTAU.)*

`tikz` (*Pkg*) `tikz` is supported.

 **displaymath and matrices** If using `display math` with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

Accept all options for `lwarp-tikz`:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** `lwarp` changes the catcode of `$` for its own use. The `TikZ babel` library temporarily changes catcodes back to normal for `TikZ`'s use. `tikz v3.0.0` introduced the `babel` library which handles catcode changes. For older versions, `lwarp` must change `$`'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{LWR@tikzbabel}
```

```

3
4 \IfPackageAtLeastTF{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}

```

Env pgfpicture

The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `lateximage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```

7 \preto\pgfpicture{%
8   \begin{lateximage}[-tikz-~\PackageDiagramAltText]%
9   \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10  {}%
11  {\catcode'\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}

```

TikZ is placed inside an SVG image, so use the original meanings of the following:

```

15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@Large{\LWR@print@Large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

File 512 **lwarp-tikz-imagelabels.sty**

§ 621 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

`tikz-imagelabels` (*Pkg*) `tikz-imagelabels` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]`

```

2 \BeforeBeginEnvironment{annotationimage}{%
3   \begin{lateximage}[-tikz-imagelabels-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}

```

---

File 513 **lwarp-titleps.sty**

§ 622 Package **titleps**

*(Emulates or patches code by JAVIER BEZOS.)*

`titleps (Pkg)` `titleps` is loaded and used by `lwarp` during HTML output. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titleps`:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

`\pagestyle` and `\thispagestyle` are already disabled in the `lwarp` code.

`\newpagestyle`            `{<name> [<style>] [<commands>]}`  
 2 \NewDocumentCommand{\newpagestyle}{m o m}{}

`\renewpagestyle`        `{<name> [<style>] [<commands>]}`  
 3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

`\sethead`                `[<el>] [<ec>] [<er>] {\<ol>} {\<oc>} {\<or>}`  
 4 \NewDocumentCommand{\sethead}{o o o m m m}{}

`\setfoot`                `[<el>] [<ec>] [<er>] {\<ol>} {\<oc>} {\<or>}`  
 5 \NewDocumentCommand{\setfoot}{o o o m m m}{}

`\settitledmarks`        `* {<names>}`  
 6 \NewDocumentCommand{\settitledmarks}{s m}{}

`\headrule`                `7 \newcommand*{\headrule}{}`

`\footrule`                `8 \newcommand*{\footrule}{}`

`\setheadrule`            `{<length>}`  
 9 \newcommand\*{\setheadrule}[1]{}

`\setfootrule`            `{<length>}`  
 10 \newcommand\*{\setfootrule}[1]{}

`\makeheadrule`



11 \newcommand\*{\makeheadrule}{}

\makefootrule

12 \newcommand\*{\makefootrule}{}

\setmarkboth

{\code}

13 \newcommand{\setmarkboth}[1]{}

\widenhead

14 \NewDocumentCommand{\widenhead}{s o o m m}{}

\bottitlemarks

15 \newcommand\*{\bottitlemarks}{}

\toptitlemarks

16 \newcommand\*{\toptitlemarks}{}

\firsttitlemarks

17 \newcommand\*{\firsttitlemarks}{}

\nexttitlemarks

18 \newcommand\*{\nexttoptitlemarks}{}

\outertitlemarks

19 \newcommand\*{\outertitlemarks}{}

\innertitlemarks

20 \newcommand\*{\innertitlemarks}{}

\newtitlemark

\* {\name}

21 \NewDocumentCommand{\newtitlemark}{s m}{}

\pretitlemark

\* {\section} {\text}

22 \NewDocumentCommand{\pretitlemark}{s m m}{}

\ifsamemark

{\group} {\command} {\true} {\false}

23 \newcommand{\ifsamemark}[4]{}

\setfloathead

\* [(<.)] [<.)] [<.)] {(<.)} {(<.)} {(<.)} {\extra} [<which]

24 \NewDocumentCommand{\setfloathead}{s o o m m m m m}{}

\setfloatfoot

\* [(<.)] [<.)] [<.)] {(<.)} {(<.)} {(<.)} {\extra} [<which]

	25 \NewDocumentCommand{\setfloatfoot}{s o o m m m m m}{}
\nextfloathead	* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨ <i>extra</i> ⟩} [⟨ <i>which</i> ⟩] 26 \NewDocumentCommand{\nextfloathead}{s o o m m m m m}{}
\nextfloatfoot	* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨ <i>extra</i> ⟩} [⟨ <i>which</i> ⟩] 27 \NewDocumentCommand{\nextfloatfoot}{s o o m m m m m}{}
\newmarkset	{⟨ <i>markset</i> ⟩} 28 \newcommand{\newmarkset}[1]{}
\newextramark	* {⟨ <i>markset</i> ⟩} {⟨ <i>macro-name</i> ⟩} 29 \NewDocumentCommand{\newextramarkset}{s m m}{}
\botextramarks	{⟨ <i>markset</i> ⟩} 30 \newcommand{\botextramarks}[1]{}
\topextramarks	{⟨ <i>markset</i> ⟩} 31 \newcommand{\topextramarks}[1]{}
\firstextramarks	{⟨ <i>markset</i> ⟩} 32 \newcommand{\firstextramarks}[1]{}
\nextextramarks	{⟨ <i>markset</i> ⟩} 33 \newcommand{\nexttopextramarks}[1]{}
\outerextramarks	{⟨ <i>markset</i> ⟩} 34 \newcommand{\outerextramarks}[1]{}
\innerextramarks	{⟨ <i>markset</i> ⟩} 35 \newcommand{\innerextramarks}[1]{}

File 514 **lwarp-titleref.sty**

§ 623 Package **titleref**

titleref (*Pkg*) titleref is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]  
2  
3 \LetLtxMacro\titleref\nameref  
4  
5 \providecounter{LWR@currenttitle}  
6  
7 \newcommand\*{\currenttitle}{%

```

8   \addtocounter{LWR@currenttitle}{1}%
9   \label{currenttitle\arabic{LWR@currenttitle}}%
10  \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}

```

---

File 515 **lwarp-titlesec.sty**

§ 624 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

`titlesec (Pkg)` `titlesec` is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titlesec`:

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘titlesec’.%}
2 \ProvidesPackage{lwarp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitles}
5 \boolfalse{LWR@loadtitles}
6
7 \DeclareOption{pagestyles}{
8   \booltrue{LWR@loadtitles}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitles}{
16   \RequirePackage{lwarp-titles}
17 }{}

```

```

\titlelabel          {<label-format>}
18 \newcommand*{\titlelabel}[1]{}

```

```

\titleformat*       {<command>} {<format>}

```

```

\titleformat        {<command>} [<shape>] {<format>} {<label>} {<sep>} {<before>} [<after>]
19 \newcommand\titleformat{%
20   \@ifstar{\ttl@format@s}%
21     {\ttl@format@i}}
22 \newcommand{\ttl@format@s}[1]{}
23 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

```

```

\chaptertitlename

24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
25 \newcommand\chaptertitlename{\@chapapp}

```

```

\titlespacing      * {<command>} {<left>} {<before>} {<after>} [<right>]

```

26 \NewDocumentCommand{\titlespacing}{s m m m o}{}

\filright

27 \newcommand\*{\filright}{}

\filcenter

28 \newcommand\*{\filcenter}{}

\filleft

29 \newcommand\*{\filleft}{}

\fillast

30 \newcommand\*{\fillast}{}

\filinner

31 \newcommand\*{\filinner}{}

\filouter

32 \newcommand\*{\filouter}{}

\wordsep

33 \newcommand\wordsep{\fontdimen\tw@\font \@plus  
34 \fontdimen\thr@\font \@minus \fontdimen4\font}

\titleline

\* [*align*] {*material*}

35 \NewDocumentCommand{\titleline}{s o m}{}

\titlerule

[*height*]

36 \providecommand\*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}

37 \newcommand\*{\ttl@rule}[1]{}{}

38 \newcommand\*{\ttl@row}[2]{}{}

\iftitlemeasuring

{*true*} {*false*}

39 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle

{*command*} {*pagestyle*}

40 \newcommand{\assignpagestyle}[2]{#2}

\titleclass

{*name*} [*startlevel*] {*class*} [*cmd*]

41 \NewDocumentCommand{\titleclass}{m o m o}{}

File 516 **lwarp-titletoc.sty**

§ 625 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

`titletoc (Pkg)` titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titletoc`:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

`\dottedcontents`       $\langle section \rangle$  [ $\langle left \rangle$ ] [ $\langle above \rangle$ ] [ $\langle label \rangle$ ] [ $\langle leader \rangle$ ]  
 2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}

`\titlecontents`      \*  $\langle section \rangle$  [ $\langle left \rangle$ ] [ $\langle above \rangle$ ] [ $\langle numbered \rangle$ ] [ $\langle numberless \rangle$ ] [ $\langle filler \rangle$ ] [ $\langle below$   
*or begin*] [ $\langle separator \rangle$ ] [ $\langle end \rangle$ ]  
 3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}  
 4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}  
 5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m o o}{}

`\contentsmargin`      [ $\langle correction \rangle$ ] [ $\langle right \rangle$ ]  
 6 \newcommand{\contentsmargin}[2][{}]

`\thecontentslabel`  
 7 \newcommand\*\thecontentslabel{\thecontentslabel}

`\thecontentspage`  
 8 \newcommand\*\thecontentspage{\thecontentspage}

`\contentslabel`      [ $\langle format \rangle$ ] [ $\langle space \rangle$ ]  
 9 \newcommand{\contentslabel}[2][{}]{\thecontentslabel}

`\contentspage`      [ $\langle format \rangle$ ]  
 10 \newcommand{\contentspage}[1][{}]{\thecontentspage}

`\contentspush`      [ $\langle text \rangle$ ]  
 11 \newcommand{\contentspush}[1]{}

`\contentsuse`      [ $\langle name \rangle$ ] [ $\langle text \rangle$ ]  
 12 \newcommand{\contentsuse}[2]{}

`\startcontents`      [ $\langle name \rangle$ ]

```

13 \newcommand*\startcontents}[1][{}
\stopcontents      [⟨name⟩
14 \newcommand*\stopcontents}[1][{}
\resumecontents    [⟨name⟩
15 \newcommand*\resumecontents}[1][{}
\printcontents     [⟨name⟩ {⟨prefix⟩} {⟨start⟩} {⟨code⟩}
16 \newcommand{\printcontents}[4][{}
\startlist         [⟨name⟩] {⟨list⟩}
17 \newcommand{\startlist}[2][{}
\stoplist          [⟨name⟩] {⟨list⟩}
18 \newcommand{\stoplist}[2][{}
\resumelist        [⟨name⟩] {⟨list⟩}
19 \newcommand{\resumelist}[2][{}
\printlist         [⟨name⟩] {⟨list⟩} {⟨prefix⟩} {⟨code⟩}
20 \newcommand{\printlist}[4][{}

```

---

File 517 **lwarp-titling.sty**

§ 626 Package **titling**

(Emulates or patches code by PETER WILSON.)

titling (*Pkg*)

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages  
**△ load order** authblk and titling. If both are used, authblk should be loaded before titling.

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\@bsmtitleempty** Patch \@bsmtitleempty:

```

2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*\@bsmtitleempty{%
4 \LWR@orig@bsmtitleempty%
5 }

```

`\keepthetitle` Patch `\keepthetitle`:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*\keepthetitle{%
8 \LWR@orig@keepthetitle%
9 }
```

`\killtitle` Patch `\killtitle`:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*\killtitle{%
12 \LWR@orig@killtitle%
13 }
```

`titlingpage` (*env.*)

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the `pre/post title/author/date` to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25   \pretitle{}
26   \posttitle{}
27
28   \preauthor{}
29   \postauthor{}
30
31   \predate{}
32   \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*\LWR@maketitlesetup{%
```

Redefine the footnote mark:

```
35   \def\@makefnmark{\textsuperscript{\@thefnmark}}%
```

`\thefootnote`  $\Rightarrow$  `\nameuse{arabic}{footnote}`, or  
`\thefootnote`  $\Rightarrow$  `\nameuse{fnsymbol}{footnote}`

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%
```

`\makethanksmark`  $\Rightarrow$  `\thanksfootmark`  $\Rightarrow$  `\tmark`  $\Rightarrow$   
`\@thefnmark`  $\Rightarrow$  `\itshape a` (or similar)

Print the text:

```
38 {##1}%
39 }% \@makefntext
40 }
```

`\thanksfootmark`

```
41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tmark \thanksfootpost%
45 }%
46 % }%
47 }
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle{%
```

An HTML titlepage `<div>` is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```



Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
57 \providecommand*\@maketitle{}
58 \renewrobustcmd*\@maketitle{%
59   \maketitlehooka
60   {
61     \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62     \@bspretitle \@title \@bsposttitle%
63     \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64   }
65   \maketitlehookb
66   {
67     \begin{BlockClass}{author}
68     \renewcommand{\and}{%
69       \end{BlockClass}%
70       \begin{BlockClass}{oneauthor}%
71     }
72     \begin{BlockClass}{oneauthor}%
73     \@bspreauthor \@author \@bspostauthor%
74     \end{BlockClass}%
75     \end{BlockClass}%
76   }
77   \maketitlehookc
78   {
79     \begin{BlockClass}{titledate}%
80     \@bspredate \@date \@bspostdate%
81     \end{BlockClass}%
82   }
83   \maketitlehookd
84 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
85 \renewcommand*\LWR@titlingmaketitle{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any \thanks footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
92 }
```

\thanksmarkseries {<series>}

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
95 }
```

Set default titlepage thanks footnote marks. See section 69.7.

```
96 \IfClassLoadedTF{memoir}{
97   \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100  \thanksmarkseries{arabic}
101 \else
102  \thanksmarkseries{fnsymbol}
103 \fi
104 }{% not memoir
```

---

File 518 **lwarp-tocbasic.sty**

§ 627 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

tocbasic (*Pkg*) tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```
2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}

```

```

11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

---

File 519 **lwarp-tocbibind.sty**

§ 628 Package **tocbibind**

(Emulates or patches code by PETER WILSON.)

tocbibind (*Pkg*) tocbibind is patched for use by lwarp.

[placement and toc options](#) An index may be placed inline with other HTML text, or on its own HTML page:

makeidx (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex

```

makeidx (*Pkg*) **On its own HTML page, with a manual toc entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

tocbibind (*Pkg*) **Inline, with an automatic toc entry:**

The tocbibind package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

tocbibind (*Pkg*) **On its own HTML page, with an automatic toc entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

numindex (*Opt*) [tocbibind] Use the tocbibind numindex option to generate a numbered index. Without this [numbered index section](#) option, the index heading has no number.

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

```

for HTML output: 1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6   \if@bibchapter
7     \if@donumindex
8       \chapter{\indexname}
9     \else
10    \if@dotocind
11      \chapter*{\indexname}
12      \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13    \else
14      \chapter*{\indexname}
15    \fi
16  \fi
17 \else
18   \if@donumindex
19     \section{\indexname}
20   \else
21     \if@dotocind
22       \section*{\indexname}
23       \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24     \else
25       \section*{\indexname}
26     \fi
27   \fi
28 \fi
29 \LetLtxMacro\item\LWR@indexitem%
30 \LetLtxMacro\subitem\LWR@indexsubitem%
31 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by anonchap.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34   \def\@chapcntformat##1{%
35     #1~\csname the##1\endcsname\simplechapterdelim\quad%
36   }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@seccntformat%
41 }

```

---

File 520 **lwarp-tocdata.sty**

§ 629 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

tocdata (*Pkg*) **tocdata** is patched for use by **lwarp**.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```

```

2 \renewcommand*\LWR@maybetocdata}{%
3   \ifdefempty{\TD@thistocdata}{}{%
4     \qqquad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5     \def\TD@thistocdata{}
6   }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10  \InlineClass{authorartist}{%
11    \qqquad --- %
12    \TDoptionalnameprint{#1}\TDoptionalnameprint{#2}#3#4%
13  }%
14 }
15
16 \@ifundefined{chapter}{}{
17   \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*\LWR@TD@settextalign}[1]{%
23   \def\LWR@TD@textalign{justify}%
24   \ifcsstring{TD@#1align}{\centering}%
25     {\def\LWR@TD@textalign{center}}%
26     {}%
27   \ifcsstring{TD@#1align}{\raggedleft}%
28     {\def\LWR@TD@textalign{right}}%
29     {}%
30   \ifcsstring{TD@#1align}{\raggedright}%
31     {\def\LWR@TD@textalign{left}}%
32     {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36   \LWR@TD@settextalign{#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38   \InlineClass{authorartist}{\TDoptionalnameprint{#2}\TDoptionalnameprint{#3}#4#5}%
39   \end{BlockClass}%
40 }
41
42 \newcommand*\LWR@TD@setnamealign}[1]{%
43   \def\LWR@TD@textalign{justify}%
44   \ifcsstring{TD@#1textalign}{\centering}%
45     {\def\LWR@TD@textalign{center}}%
46     {}%
47   \ifcsstring{TD@#1textalign}{\raggedleft}%
48     {\def\LWR@TD@textalign{right}}%
49     {}%
50   \ifcsstring{TD@#1textalign}{\raggedright}%
51     {\def\LWR@TD@textalign{left}}%
52     {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

File 521 **lwarp-tocenter.sty**§ 630 Package **tocenter**

tocenter (*Pkg*) tocenter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

2 \NewDocumentCommand{\ToCenter}{s o m m}{}

3 \NewDocumentCommand{\FromMargins}{s o m m m m}{}

File 522 **lwarp-tocloft.sty**§ 631 Package **tocloft**

(Emulates or patches code by PETER WILSON.)

tocloft (*Pkg*) tocloft is emulated. Most user options and macros are ignored and disabled. \newlistof and \cftchapterprecis are supported.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

Discard all options for lwarp-tocloft:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

\tocloftpagestyle            {<style>}

2 \newcommand{\tocloftpagestyle}[1]{}

\cftmarktoc

3 \newcommand\*\cftmarktoc{}

\cfttoctitlefont

4 \newcommand\*\cfttoctitlefont{}

\cftaftertocitle

5 \newcommand\*\cftaftertocitle{}

6 \newlength{\cftbeforetoctitleskip}

7 \newlength{\cftaftertocitleskip}

\cftmarklof

8 \newcommand\*\cftmarklof{}

`\cftloftitlefont`

9 `\newcommand*{\cftloftitlefont}{}`

`\cftafterloftitle`

10 `\newcommand*{\cftafterloftitle}{}`

11 `\newlength{\cftbeforeloftitleskip}`

12 `\newlength{\cftafterloftitleskip}`

`\cftmarklot`

13 `\newcommand*{\cftmarklot}{}`

`\cftlottitlefont`

14 `\newcommand*{\cftlottitlefont}{}`

`\cftafterlottitle`

15 `\newcommand*{\cftafterlottitle}{}`

16 `\newlength{\cftbeforelottitleskip}`

17 `\newlength{\cftafterlottitleskip}`

`\cftdot`

18 `\providecommand*{\cftdot}{.}`

`\cftdotsep`

19 `\providecommand*{\cftdotsep}{1}`

`\cftnodots`

20 `\providecommand*{\cftnodots}{5000}`

`\cftdotfill`

`{\langle sep \rangle}`

21 `\providecommand{\cftdotfill}[1]{}`

`\cftsetpnumwidth`

`{\langle length \rangle}`

22 `\DeclareDocumentCommand{\cftsetpnumwidth}{m}{}`

`\cftsetrmarg`

`{\langle length \rangle}`

23 `\DeclareDocumentCommand{\cftsetrmarg}{m}{}`

`\cftpnumalign`

`{\langle alignment \rangle}`

24 `\DeclareDocumentCommand{\cftpnumalign}{m}{}`

25 `\LWR@providelength{\cftparskip}`

The part-related items are also provided by memoir:

```

26 \LWR@providelength{\cftbeforepartskip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*\cftpartfont{}
30 \providecommand*\cftpartpresnum{}
31 \providecommand*\cftpartaftersnum{}
32 \providecommand*\cftpartaftersnumb{}
33 \providecommand*\cftpartleader{}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont{}
36 \providecommand*\cftpartafterpnum{}

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}
43 \newcommand*\cftchapaftersnumb{}
44 \newcommand*\cftchapleader{}
45 \newcommand*\cftchapidotsep{1}
46 \newcommand*\cftchappagefont{}
47 \newcommand*\cftchapafterpnum{}

```

The following do not appear in memoir:

```

48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont{}
52 \newcommand*\cftsecpresnum{}
53 \newcommand*\cftsecaftersnum{}
54 \newcommand*\cftsecaftersnumb{}
55 \newcommand*\cftsecleader{}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont{}
58 \newcommand*\cftsecafterpnum{}

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\cftsubsecfont{}
63 \newcommand*\cftsubsecpresnum{}
64 \newcommand*\cftsubsecaftersnum{}
65 \newcommand*\cftsubsecaftersnumb{}
66 \newcommand*\cftsubsecleader{}
67 \newcommand*\cftsubsecdotsep{1}
68 \newcommand*\cftsubsecpagefont{}
69 \newcommand*\cftsubsecafterpnum{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\cftsubsubsecfont{}
74 \newcommand*\cftsubsubsecpresnum{}

```



```
75 \newcommand*\cftsubsubsecftersnum}{  
76 \newcommand*\cftsubsubsecftersnumb}{  
77 \newcommand*\cftsubsubsecleader}{  
78 \newcommand*\cftsubsubsecdotsep}{1}  
79 \newcommand*\cftsubsubsecpagefont}{  
80 \newcommand*\cftsubsubsecfterpnum}{  
  
81 \LWR@providelength{\cftbeforeparaskip}  
82 \LWR@providelength{\cftparaindent}  
83 \LWR@providelength{\cftparanumwidth}  
84 \newcommand*\cftparafont}{  
85 \newcommand*\cftparapresnum}{  
86 \newcommand*\cftparaaftersnum}{  
87 \newcommand*\cftparaaftersnumb}{  
88 \newcommand*\cftparaleader}{  
89 \newcommand*\cftparadotsep}{1}  
90 \newcommand*\cftparapagefont}{  
91 \newcommand*\cftparaafterpnum}{  
  
92 \LWR@providelength{\cftbeforesubparaskip}  
93 \LWR@providelength{\cftsubparaindent}  
94 \LWR@providelength{\cftsubparanumwidth}  
95 \newcommand*\cftsubparafont}{  
96 \newcommand*\cftsubparapresnum}{  
97 \newcommand*\cftsubparaaftersnum}{  
98 \newcommand*\cftsubparaaftersnumb}{  
99 \newcommand*\cftsubparaleader}{  
100 \newcommand*\cftsubparadotsep}{1}  
101 \newcommand*\cftsubparapagefont}{  
102 \newcommand*\cftsubparaafterpnum}{  
  
103 \LWR@providelength{\cftbeforefigskip}  
104 \LWR@providelength{\cftfigindent}  
105 \LWR@providelength{\cftfignumwidth}  
106 \newcommand*\cftfigfont}{  
107 \newcommand*\cftfigpresnum}{  
108 \newcommand*\cftfigaftersnum}{  
109 \newcommand*\cftfigaftersnumb}{  
110 \newcommand*\cftfigleader}{  
111 \newcommand*\cftfigdotsep}{1}  
112 \newcommand*\cftfigpagefont}{  
113 \newcommand*\cftfigafterpnum}{  
  
114 \LWR@providelength{\cftbeforesubfigskip}  
115 \LWR@providelength{\cftsubfigindent}  
116 \LWR@providelength{\cftsubfignumwidth}  
117 \newcommand*\cftsubfigfont}{  
118 \newcommand*\cftsubfigpresnum}{  
119 \newcommand*\cftsubfigaftersnum}{  
120 \newcommand*\cftsubfigaftersnumb}{  
121 \newcommand*\cftsubfigleader}{  
122 \newcommand*\cftsubfigdotsep}{1}  
123 \newcommand*\cftsubfigpagefont}{  
124 \newcommand*\cftsubfigafterpnum}{  
  
125 \LWR@providelength{\cftbeforetabskip}  
126 \LWR@providelength{\cfttabindent}  
127 \LWR@providelength{\cfttabnumwidth}  
128 \newcommand*\cfttabfont}{
```

```

129 \newcommand*\cfttabpresnum{}
130 \newcommand*\cfttabaftersnum{}
131 \newcommand*\cfttabaftersnumb{}
132 \newcommand*\cfttableader{}
133 \newcommand*\cfttabdotsep{1}
134 \newcommand*\cfttabpagefont{}
135 \newcommand*\cfttabafterpnum{}

136 \LWR@providelength\cftbeforesubtabskip}
137 \LWR@providelength\cftsubtabindent}
138 \LWR@providelength\cftsubtabnumwidth}
139 \newcommand*\cftsubtabfont{}
140 \newcommand*\cftsubtabpresnum{}
141 \newcommand*\cftsubtabaftersnum{}
142 \newcommand*\cftsubtabaftersnumb{}
143 \newcommand*\cftsubtableader{}
144 \newcommand*\cftsubtabdotsep{1}
145 \newcommand*\cftsubtabpagefont{}
146 \newcommand*\cftsubtabafterpnum{}

147 \DeclareDocumentCommand\cftsetindents{m m m}{
148 \providecommand\cftpagenumbersoff}[1]{
149 \providecommand\cftpagenumberon}[1]{

```

\newlistentry

[*within*] {*counter*} {*ext*} {*level-1*}

```

150 \DeclareDocumentCommand\newlistentry{o m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155   \ifundefined{c@#2}{%
156     \newcounter{#2}[#1]%
157     \expandafter\edef\csname the#2\endcsname{%
158       \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159     }%
160   }{%
161 }%
162 {%
163   \ifundefined{c@#2}{%
164     \newcounter{#2}%
165   }{%
166 }%
167 \@namedef{l@#2}##1##2{%
168   \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169   \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%

```

```

181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

`\newlistof`

`[<within>] <type> <ext> <listofname>`

Emulated through the `\newfloat` mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%
188   \IfValueTF{#1}%
189     {\newlistentry[#1]{#2}{#3}{0}}%
190     {\newlistentry{#2}{#3}{0}}%
191   \@namedef{ext@#2}{#3}%
192   \ifundefined{c@#3depth}{\newcounter{#3depth}}{%
193     \setcounter{#3depth}{1}%
194     \@namedef{cftmark#3}{}%
195     \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196     \@namedef{@cftmake#3title}{}%
197     \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198     \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199     \@namedef{cft#3titlefont}{}%
200     \@namedef{cftafter#3title}{}%
201     \@namedef{cft#3prehook}{}%
202     \@namedef{cft#3posthook}{}%
203 }

```

`\cftchapterprecis`

`<text>`

```

204 \newcommand{\cftchapterprecis}[1]{%
205   \cftchapterprecishere{#1}
206   \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208   \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210   \addtocontents{toc}{%
211     {
212       \protect\begin{quote}#1\protect\end{quote}}
213   }
214 }

```

---

File 523 **lwarp-tocstyle.sty**

§ 632 Package **tocstyle**

`tocstyle (Pkg)` `tocstyle` is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle[2][{}]{
3 \newcommand*\deactivatetocstyle[1][{}]{
4 \newcommand*\reactivatetocstyle[1][{}]{
5 \NewDocumentCommand{\settocfeature}{o o m m}{

```

```

6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*{\aliastoc}[2]{}
9 \newcommand*{\showtoc}[2][{}]{
10 \newcommand{\iftochasdepth}[4]{}

```

---

File 524 **lwarp-todo.sty**

§ 633 Package **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

todo (*Pkg*) **todo** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

2 \renewcommand\todoitem[2]{%
3   \refstepcounter{todo}%
4   \item[%
5     \HTMLUnicode{2610} \quad%
6     \ref{todopage:\thetodo}
7   ] : {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
8   \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12   \stepcounter{todo}%
13   \item[%
14     \HTMLUnicode{2611} \quad%
15     \ref{todopage:\thetodo}
16   ] \@nameuse{@done\the\c@todo}:
17     {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
18 }

```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```

19 \xpatchcmd{\@displaytodo}
20   {\todoformat #1}{\todoformat \textbf{#1}}{}
21   {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
22
23 \xpatchcmd{\@displayfulltodo}
24   {\todoformat #1}{\todoformat \textbf{#1}}{}
25   {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
28   {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
31   {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}

```

If **cleveref** is in use, name the new todo notes:

```

32 \AtBeginDocument{
33 \ifdef{\crefname}{
34   \crefname{todo}{todo}{todos}

```

```

35   \Crefname{todo}{Todo}{Todos}
36 }{}
37 }

```

---

File 525 **lwarp-todonotes.sty**

§ 634 Package **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

todonotes (*Pkg*) **todonotes** is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

```

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

8 \let\LWR@TODONOTES@orig@todotoc\todotoc
9
10 \renewcommand*\l@todotoc{%
11 \LWR@phantomsection%
12 \LWR@TODONOTES@orig@todotoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17   {\@todonotes@currentbordercolor}
18   {\@todonotes@currentbackgroundcolor}
19   {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25   {\@todonotes@currentbordercolor}%
26   {\@todonotes@currentbackgroundcolor}%
27   {%
28     \if@todonotes@authorgiven%
29     {\@todonotes@author:\,}%
30     \fi%
31     \@todonotes@text%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
37     \@todonotes@author\par%
38   \fi%
39   \arabic{\@todonotes@numberoftodonotes}: %

```

```

40   \fcolorbox%
41   {\@todonotes@currentbordercolor}%
42   {\@todonotes@currentbackgroundcolor}%
43   {%
44       \@todonotes@sizecommand%
45       \@todonotes@text %
46   }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][\%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57   {\@todonotes@currentbordercolor}%
58   {\@todonotes@currentfigcolor}%
59   {%
60       \setlength{\fboxrule}{4pt}%
61       \fcolorbox{red}{white}{Missing figure} \quad #2%
62   }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection}{}%
70 \IfValueTF{#1}{%
71     \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73     \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 526 **lwarp-topcapt.sty**

§ 635 Package **topcapt**

topcapt (*Pkg*) topcapt is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]


2 \LetLtxMacro\topcaption\caption

---

File 527 **lwarp-tram.sty**

§ 636 Package **tram**

tram (*Pkg*) tram is emulated.

 **block only** The HTML emulation uses a `<div>`, which must not appear inside an HTML `<span>` or an HTML paragraph. For this reason, the `tram` environment should only be used to contain paragraphs inside a `\parbox` or `minipage`. `tram` should not be used to mark up inline text.

To disable `tram`, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][{}]{}
\end{warpHTML}
```

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```
2 \newenvironment{tram}[1][{}]{
3   {\BlockClass[background:lightgray]{tram}}
4   {\endBlockClass}}
```

---

File 528 **lwarp-transparent.sty**

§ 637 Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`transparent (Pkg)` `transparent` is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

 **Not X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X!** Note that `transparent` does not work with X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```
2 \newcommand*\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

---

File 529 **lwarp-trimclip.sty**

§ 638 Package **trimclip**

`trimclip (Pkg)` `trimclip` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar@gobble@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

---

File 530 **lwarp-trivfloat.sty**

§ 639 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

`trivfloat (Pkg)` **trivfloat** is forced to use the built-in `lwarp` emulation for floats.

To create a new float type and change its name:

---

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

---

Discard all options for `lwarp-trivfloat`. This tells `trivfloat` not to use `floatrow` or `memoir`.

```

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

```

`\tfl@chapter@fix` Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```

3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{} }

```



### § 639.1 **Combining `\newfloat`, `\trivfloat`, and `algorithmicx`**

**For both print and HTML output:**

- ⚠ When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.
- ⚠ When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.
- ⚠ When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

#### File 531 **lwarp-truncate.sty**

### § 640 Package **truncate**

`truncate (Pkg)` `truncate` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{truncate}[2001/08/20]`

```
2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

#### File 532 **lwarp-turnthepage.sty**

### § 641 Package **turnthepage**

`turnthepage (Pkg)` `turnthepage` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]`

```
2 \newcommand{\turnthepage}{}
```

---

#### File 533 **lwarp-twoup.sty**

### § 642 Package **twoup**

`twoup (Pkg)` `twoup` is ignored.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{twoup}[2007/02/26]`

---

```
2 \newcommand{\cleartolastpage}{}

```

---

File 534 **lwarp-txfonts.sty**

§ 643 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

txfonts (*Pkg*) txfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

```

---

File 535 **lwarp-txgreeks.sty**

§ 644 Package **txgreeks**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

txgreeks (*Pkg*) txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]

```
2
3 \LWR@infoprocessingmathjax{txgreeks}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8   \LWR@mathjax@addgreek@l@up{}{}
9   \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11   \LWR@mathjax@addgreek@l@it{}{}
12   \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16   \LWR@mathjax@addgreek@u@it*{}{}
17   \LWR@mathjax@addgreek@u@up*{other}{}
18   \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20   \LWR@mathjax@addgreek@u@up*{}{}
21   \LWR@mathjax@addgreek@u@it*{other}{}

```

```

22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

---

File 536 **lwarp-typearea.sty**

§ 645 Package **typearea**

(Emulates or patches code by MARKUS KOHM.)

`typearea` (*Pkg*) `typearea` is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 537 **lwarp-typicons.sty**

§ 646 Package **typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

`typicons` (*Pkg*) `typicons` is patched for use by `lwarp`.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7   \begin{lateximage}*[typicon][typicon#1]%
8   \begingroup%
9     \LWR@orig@typicon@TI%
10    \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{lateximage}%
13 }

```

```

14
15 \renewcommand*{\TI}{%
16   \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21   \begin{lateximage}*[#1 icon][typicon#1]%
22   \TI\csname ticon@#1\endcsname%
23   \end{lateximage}%
24 }

```

---

File 538 **lwarp-ulem.sty**

§ 647 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

ulem (*Pkg*) Patched for use by lwarp.

**for HTML output:** Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using CSS:

```

2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3   \InlineClass%
4     (text-decoration:underline; text-decoration-skip: auto)%
5     {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10  \InlineClass%
11    (%
12      text-decoration:underline; text-decoration-skip: auto;%
13      text-decoration-style:double%
14    )%
15    {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20  \InlineClass%
21    (%
22      text-decoration:underline; text-decoration-skip: auto;%
23      text-decoration-style:wavy%
24    )%
25    {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30  \InlineClass%
31    (text-decoration:line-through)%
32    {sout}{\LWR@isolate{#1}}%

```

```

33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37   \InlineClass%
38     (text-decoration:line-through)%
39     {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44   \InlineClass%
45     (%
46       text-decoration:underline;%
47       text-decoration-skip: auto;%
48       text-decoration-style:dashed%
49     )%
50     {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55   \InlineClass%
56     (%
57       text-decoration:underline;%
58       text-decoration-skip: auto;%
59       text-decoration-style: dotted%
60     )%
61     {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

Nullified/emulated macros:

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{ }
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 539 **lwarp-umoline.sty**

§ 648 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

umoline (*Pkg*) **umoline** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

```

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3   \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8   \InlineClass{sout}{#1}%

```

```

9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*\LWR@HTML@Overline}[1]{%
13   \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*\LWR@HTML@UMoline}[2]{%
18   \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMonewline}{s}{\newline}
26 \LWR@formatted{UMonewline}

```

---

File 540 **lwarp-underscore.sty**

§ 649 Package **underscore**

underscore (*Pkg*) underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]


---

File 541 **lwarp-unicode-math.sty**


§ 650 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

unicode-math (*Pkg*) unicode-math is supported as-is for HTML with svgnmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors upright and italic, but italic will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\sybbb\mathbb}
11 \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\sybfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\sybfsf}[1]{%
25 %   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\sybfup\mathbf}
29 \CustomizeMathJax{\newcommand{\sybfup}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\sybfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\sybfscr}[1]{%
34 %   \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\sybffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\sybffrak}[1]{%
39 %   \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
```

```

41
42 \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symbfsfup}[1]{%
44 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symbfsfit}[1]{%
49 %     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symbf\mathbf}% \symbfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 % \CustomizeMathJax{\let\symbit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60   {\CustomizeMathJax{\let\symsf\symsfup}}
61   {
62     \bool_if:NTF \g__um_upsans_bool
63       {\CustomizeMathJax{\let\symsf\symsfup}}
64       {\CustomizeMathJax{\let\symsf\symsfit}}
65   }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
70 % \CustomizeMathJax{\let\symbfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 % \CustomizeMathJax{\let\sybbb\mathbb}
73 % \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symfrac\mathfrac}
77 \CustomizeMathJax{\let\sybfrac\mathbfrac}

```

Some symbol categories defined by unicode-math, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

math-style is one of: ISO, TeX, french, upright, or literal, which set \g\_\_um\_upGreek\_bool and \g\_\_um\_upgreek\_bool.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88   {\LWR@mathjax@addgreek@u@up*{}}

```



```

89   {\LWR@mathjax@addgreek@u@it*{}}{}
90
91 \bool_if:NTF \g__um_upgreek_bool
92   {\LWR@mathjax@addgreek@l@up{}}{}
93   {\LWR@mathjax@addgreek@l@it{}}{}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()}
104 \CustomizeMathJax{\let\rparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,^3\!\!\sqrt{#1}}\,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,^4\!\!\sqrt{#1}}\,}

```

Many `\mathopen`/`\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left`/`\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{#1}\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}

```

```

145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rrpolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\varabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\varabicjad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

---

File 542 **lwarp-units.sty**

§ 651 Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

`units` (*Pkg*) `units` is patched for use by `lwarp`.

Values are not styled by CSS, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body CSS to match the print version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{units}[1998/08/04]`

```

2 \DeclareRobustCommand*\LWR@HTML@unit[2][]{%
3 \ifblank{#1}%
4   {\LWR@textcurrentfont{#2}}%
5   {%
6     #1%
7     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%

```

```

8      \LWR@textcurrentfont{#2}%
9    }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][[]]{%
13 \ifblank{#1}%
14   {%
15     \nicefrac{#2}{#3}%
16   }%
17   {%
18     #1%
19     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20     \nicefrac{#2}{#3}%
21   }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][[]]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][[]]{#1 \mathinner{{}^{\#2}\!/_{\!}_{\#3}}}}
28 \end{warpMathJax}

```

---

File 543 **lwarp-unitsdef.sty**

§ 652 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

unitsdef (*Pkg*) unitsdef is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

```

2 \newcommand{\LWR@HTML@unitvaluesep}{\,%
3 \LWR@formatted{unitvaluesep}
4
5 \newcommand{\LWR@HTML@unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
6 \LWR@formatted{unittimes}
7
8 \newunit{\LWR@HTML@arcmin}{%
9   \HTMLUnicode{2032}% prime
10 }
11 \LWR@formatted{arcmin}
12
13 \newunit{\LWR@HTML@arcsec}{%
14   \HTMLUnicode{2033}% dbl prime
15 }
16 \LWR@formatted{arcsec}
17
18 \newrobustcmd{\LWR@HTML@SI}[2][[]]{%
19   \begingroup%
20   \let\unit@xspace\relax%
21   \unitSIdef\selectfont%
22   \LWR@textcurrentfont{#1#2}% lwarp

```

```

23 \endgroup%
24 }
25 \LWR@formatted{SI}

```

---

File 544 **lwarp-upgreek.sty**

§ 653 Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

upgreek (*Pkg*) upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}

```

---

File 545 **lwarp-upref.sty**

§ 654 Package **upref**

upref (*Pkg*) upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

---

File 546 **lwarp-url.sty**

§ 655 Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

url (*Pkg*) url is patched for use by lwarp.

**for HTML output:**

```

1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString}{%
5 \expandafter\LWR@url@orig@url\expandafter{Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}

```

---

File 547 **lwarp-ushort.sty**

§ 656 Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

ushort (*Pkg*) ushort is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4   \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

---

File 548 **lwarp-ospace.sty**

§ 657 Package **ospace**

ospace (*Pkg*) ospace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

---

File 549 **lwarp-varioref.sty**

§ 658 Package **varioref**

*(Emulates or patches code by FRANK MITTELBACH.)*

varioref (*Pkg*) varioref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter     {\unskip}%
5 \def\reftextbefore   {\unskip}%
6 \def\reftextcurrent  {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

File 550 **lwarp-verse.sty**

§ 659 Package **verse**

(Emulates or patches code by PETER WILSON.)

verse (*Pkg*) **verse** is supported and patched by **lwarp**.

**for HTML output:** Pass all options for **lwarp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a `\\` after each line.

`\attrib` The documentation for the **verse** and **memoir** packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. **lwarp** provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

`\leftskip` (*Len*) These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which

⚠ **verse margin** case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

verse (*env.*) The **verse** environment will be placed inside a HTML `<pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the **verse** environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original `list` environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

verse (*Pkg*)     The **verse** or **memoir** packages can place stanza numbers to the left with their  
memoir (*Cls*)    \flagverse command.   The following does not allow them to go into the left  
\flagverse       margin, which would cause *pdfcrop* to crop the entire page further to the left.

```
\vleftskip (Len) 7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the verse environment, which places the <pre> tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place poemtitle inside an HTML <span> of class poemtitle:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

File 551   **lwarp-versonotes.sty**

§ 660     Package   **versonotes**

(Emulates or patches code by NORMAN GRAY.)

versonotes (*Pkg*)   **versonotes** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

```
2 \newcommand{\versonote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*\versolayout{}
```

In case the user changed the page number before loading **versonotes**:

```
6 \setcounter{page}{1}
```

---

File 552 **lwarp-vertbars.sty**

§ 661 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

vertbars (*Pkg*) vertbars is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```

2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8   \LWR@forcenewpage
9   \LWR@forceminwidth{\barwidth}
10  \begin{BlockClass}[%
11    border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12    padding-left: \LWR@printlength{\barspace}%
13  ]{vertbar}
14 }{
15   \end{BlockClass}
16 }
```

---

File 553 **lwarp-vmargin.sty**

§ 662 Package **vmargin**

vmargin (*Pkg*) vmargin is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```

2 \newcommand*\LWRVM@customsize[2]{}
3 \newcommand*\setpapersize[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]}
4 \newcommand*\setmargins[8]{}
5 \newcommand*\setmarginsrb[8]{}
6 \newcommand*\setmargnohf[4]{}
7 \newcommand*\setmargnohfrb[4]{}
8 \newcommand*\setmarg[4]{}
9 \newcommand*\setmargrb[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape
```



File 554 **lwarp-vowel.sty**

§ 663 Package **vowel**

*(Emulates or patches code by FUKUI REL.)*

vowel (*Pkg*) vowel is patched for use by lwarp.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```
\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```
2 \renewenvironment{vowel}[1]{}
3   {%
4     \begin{lateximage}[-vowel-~\PackageDiagramAltText]%
5     \@vowel[#1]%
6   }
7   {%
8     \@@vowel%
9     \end{lateximage}%
10  }
```

File 555 **lwarp-vpe.sty**

§ 664 Package **vpe**

vpe (*Pkg*) vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 556 **lwarp-vwcol.sty**

§ 665 Package **vwcol**

*(Emulates or patches code by WILL ROBERTSON.)*

vwcol (*Pkg*) vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from `\vwcol`. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule      {<style tag>}
2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3   \appto{\LWR@vwcolstyle}{%
4     #1: %
5     \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6   }%
7 }
```

```
\LWR@vwcol@addrule      {<style tag>}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9   \appto{\LWR@vwcolstyle}{%
10    #1: %
11    \LWR@printlength{\vwcol@sep} ; %
12  }%
13 }
```

Env `vwcol`                    {<key/values>}  
 Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][1]{%
  New paragraph, and process the options:
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
  Begin with no style:
17 \newcommand*{\LWR@vwcolstyle}{}
  presep and postsep are created with HTML margins:
18 \if@vwcol@presep
19   \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22   \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25   \LWR@vwcol@addgap{column-gap}
26   \LWR@vwcol@addgap{-moz-column-gap}
27   \LWR@vwcol@addgap{-webkit-column-gap}
28 }{ }
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31   \ifdimless{\vwcol@rule}{1pt}{
32     \setlength{\vwcol@rule}{1pt}
33   }{ }
34   \LWR@vwcol@addrule{column-rule}
35   \LWR@vwcol@addrule{-moz-column-rule}
36   \LWR@vwcol@addrule{-webkit-column-rule}
37   \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
```

```
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{ }
47 }{ }

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{ }

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{ }

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{ }
61 }{ }
```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicolors}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

---

File 557 **lwarp-wallpaper.sty**

§ 666 Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

wallpaper (*Pkg*) **wallpaper** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}

```

---

```

9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}

```

---

File 558 **lwarp-watermark.sty**

§ 667 Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

watermark (*Pkg*) **watermark** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```

2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}

```

---

File 559 **lwarp-widetable.sty**

§ 668 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

widetable (*Pkg*) **widetable** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

```

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

```

---

File 560 **lwarp-widows-and-orphans.sty**

§ 669 Package **widows-and-orphans**

widows-and-orphans (*Pkg*) **widows-and-orphans** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

```

2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}

```

File 561 **lwarp-witharrows.sty**

§ 670 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

witharrows (*Pkg*) **witharrows** is patched for use by lwarp. Emulation is provided for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

2 \ifbool{mathjax}{
3   % For the hidden print version in the HTML:
4   \newcommand{\Arrow}[2][{}]{
5     \newcommand{\unicode}[1]{
6       \NewDocumentEnvironment { DispWithArrows } { ! d < > ! 0 { } +b}
7         {
8           \IfValueTF{#1}{
9             \begin{displaymath}
10              #1 \left\lbracket
11              \begin{align}
12                #3
13              \end{align}
14              \right .
15            \end{displaymath}
16          }{
17            \begin{displaymath}
18              \begin{align}
19                #3
20              \end{align}
21            \end{displaymath}
22          }
23        }
24      {}
25    \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! 0 { } +b}
26      {
27        \IfValueTF{#1}{
28          \begin{displaymath}
29            #1 \left\lbracket
30            \begin{align*}
31              #3
32            \end{align*}
33            \right .
34          \end{displaymath}
35        }{
36          \begin{displaymath}
37            \begin{align*}
38              #3
39            \end{align*}
40          \end{displaymath}
41        }
42      }
43    {}
44  }{
45    % If not MathJax, use SVG images.
46    \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47    \BeforeBeginEnvironment{DispWithArrows}{%

```

```

48     \begin{BlockClass}{displaymathnumbered}%
49     \begin{lateximage}%
50   }
51   \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
52   \BeforeBeginEnvironment{DispWithArrows*}{%
53     \begin{BlockClass}{displaymath}%
54     \begin{lateximage}%
55   }
56   \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
57 }
58
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][[]]{\begin{aligned}}{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][[]]{&{\Large\unicode{x2938}}~\textit{#2}}}
63 \end{warpMathJax}

```

---

File 562 **lwarp-wrapfig.sty**

§ 671 Package **wrapfig**

*(Emulates or patches code by DONALD ARSENEAU.)*

wrapfig (*Pkg*) wrapfig is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```

2 \newcommand*{\LWR@wrapposition}{}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7   \IfPackageLoadedTF{keyfloat}{
8     \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9       \ifboolexpr{
10         test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11         bool {KFLT@inkeysubfloats}
12       }%
13         {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}\%; }%
14         {\LWR@printlength{\LWR@templengthone}}%
15       }%
16     }{}
17 }
18
19 \newcommand*{\LWR@subwrapfigure}[2]{%
20   \renewcommand*{\LWR@wrapposition}{}%
21   \ifthenelse{%
22     \equal{#1}{r}\OR\equal{#1}{R}\OR%
23     \equal{#1}{o}\OR\equal{#1}{O}%
24   }%
25     {\renewcommand*{\LWR@wrapposition}{float:right}}%
26     {\renewcommand*{\LWR@wrapposition}{float:left}}%
27   \setlength{\LWR@templengthone}{#2}%
28   \LWR@BlockClassWP{%
29     width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30     margin:10pt%
31   }%

```

```

32   {%
33       width:\LWR@wrapfig@printHTMLwidth; %
34       \LWR@wrapposition; %
35   }%
36   (note)%
37   {marginblock}%

38   \setlength{\linewidth}{\LWR@templengthone}%
39 }
40
41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44     \begin{LWR@setvirtualpage}*%
45     \LWR@subwrapfigure{#2}{#4}%
46     \renewcommand*{\@capttype}{figure}%
47 }
48 {%
49     \endLWR@BlockClassWP%
50     \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56     \begin{LWR@setvirtualpage}*%
57     \LWR@subwrapfigure{#2}{#4}%
58     \renewcommand*{\@capttype}{table}%
59 }
60 {%
61     \endLWR@BlockClassWP%
62     \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68     \begin{LWR@setvirtualpage}*%
69     \LWR@subwrapfigure{#3}{#5}%
70     \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73     \endLWR@BlockClassWP%
74     \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

---

File 563 **lwarp-wrapfig2.sty**

§ 672 Package **wrapfig2**

*(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)*

wrapfig2 (*Pkg*) wrapfig2 is emulated via a modified version of the wrapfig emulation.

**for HTML output:** 1 \@ifpackageloaded{color}{}{%}

```

2 \@ifpackageloaded{xcolor}{\LWR@origRequirePackage{xcolor}}%
3 }
4
5 \RequirePackage{float}
6
7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
8 {}% v4.0
9 {% v5+
10 \floatstyle{plain}
11 \ifcsname chapter\endcsname
12 \newfloat{text}{tbp}{lotx}[chapter]
13 \else
14 \newfloat{text}{tbp}{lotx}
15 \fi
16 \floatname{text}{Text}
17 % \let\WF@text@caption\float@caption
18 }
19
20
21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16]
22
23 \LWR@origRequirePackage{lwarp-wrapfig}

24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}% original
25 {\wrapfloat{figure}[#1][#2][#3][#4]}%
26 {\endwrapfloat}
27
28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}% original
29 {\wrapfloat{table}[#1][#2][#3][#4]}%
30 {\endwrapfloat}
31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwarp
33 {%
34 \begin{LWR@setvirtualpage}*%
35 \LWR@subwrapfigure{#3}{#5}%
36 \renewcommand*{\@capttype}{#1}%
37 }
38 {%
39 \endLWR@BlockClassWP%
40 \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
43 {% v4.0:
44 \NewDocumentEnvironment{wraptext}%
45 {O{l} D||{0.5\columnwidth} D<>{0} D(){figure}}%
46 {%
47 \wrapfloat{#4}[][#1][#2]%
48 \tcolorbox%
49 }
50 {%
51 \endtcolorbox%
52 \endwrapfloat%
53 \ignorespaces%
54 }
55 }{}
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{Wfive}
58 {% v5

```



```

59   \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60   \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61   \colorlet{WFtext}{black}
62   \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63   \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
64   \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
65   \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67   \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
68   {%
69     \wrapfloat{text}[][#2][]{#4}%
70   }
71   {%
72     \endwrapfloat%
73     \ignorespaces%
74   }
75
76   \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{1pt,1ex} o}%
77   {%
78     \WFSplitdimens #3!
79     \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
80     \LWR@HTML@fcolorboxBlock%
81     [named]{WFframe}[named]{WFbackground}{#2}%
82     (%
83       color:\LWR@origpound\LWR@tempcolor ; %
84       border-radius:\ 1ex%
85     )%
86   }
87 }{% v6+
88   \RequirePackage{xkeyval}
89
90   \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91   \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92   \colorlet{WFtext}{black}
93   \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94   \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95   \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
96   \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
97
98   \newlength{\LWR@wrapfigtwo@radius}
99   \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101   \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102%     \def\WFscalefactor{#1}%
103   }
104   \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105   \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}
106   \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107   \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108   \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFtxt{#1}}
109   \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110   \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111     \setlength{\LWR@wrapfigtwo@radius}{#1}%
112   }
113   \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114%     \insertwidth=#1%
115   }
116
117   \DeclareOptionX*{\PackageWarning{wrapfig2}{‘\CurrentOption’ ignored}}
118

```

```

119   \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120   backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122   \ProcessOptionsX*
123
124   \NewDocumentEnvironment{wraptext}{0{0} m 0{0pt} G{0.5\columnwidth}}
125   {%
126     \wrapfloat{text}[][#2][]{#4}%
127   }
128   {%
129     \endwrapfloat%
130     \ignorespaces%
131   }
132
133   \NewDocumentCommand\includeframedtext{0{\insertwidth} m 0{} o}
134   {%
135     \ExecuteOptionsX<wraptext>{#3}%   executes possible key=value options
136     \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
137     \LWR@HTML@fcolorboxBlock%
138     [named]{WFframe}[named]{WFbackground}%
139     {\LWR@textcurrentfont{#2}}%
140     (%
141       color:\LWR@origpound\LWR@tempcolor ; %
142       border-radius:\LWR@printlength{\LWR@wrapfigtwo@radius}%
143     )%
144   }
145 }

```

---

File 564 **lwarp-xbmks.sty**

§ 673 Package **xbmks**

`xbmks (Pkg)` `xbmks` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 565 **lwarp-xcolor.sty**

§ 674 Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

`xcolor (Pkg)` `xcolor` is supported by lwarp.

### § 674.1 **Limitations**

<code>\colorboxBlock</code> and <code>\fcolorboxBlock</code>	<code>\colorboxBlock</code> and <code>\fcolorboxBlock</code> are provided for increased HTML compatibility, and they are identical to <code>\colorbox</code> and <code>\fcolorbox</code> in print mode. In HTML mode they place their contents into a <code>&lt;div&gt;</code> instead of a <code>&lt;span&gt;</code> . These <code>&lt;div&gt;</code> s are set to display: <code>inline-block</code> so adjacent <code>\colorboxBlock</code> s appear side-by-side in HTML, although text is placed before or after each.
	Print-mode definitions for <code>\colorboxBlock</code> and <code>\fcolorboxBlock</code> are created by <code>lwarp</code> 's core if <code>xcolor</code> is loaded.
<code>background: none</code>	<code>\fcolorbox</code> and <code>\fcolorboxBlock</code> allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.
<code>color support</code>	Color definitions, models, and mixing are fully supported without any changes required.
<code>colored tables</code>	<code>\rowcolors</code> is supported, except that the optional argument is ignored so far.
<code>colored text and boxes</code>	<code>\textcolor</code> , <code>\colorbox</code> , and <code>\fcolorbox</code> are supported.
<code>\color</code> and <code>\pagecolor</code>	<code>\color</code> and <code>\pagecolor</code> are ignored. Use CSS or <code>\textcolor</code> where possible.

### § 674.2 **xcolor definitions: location and timing**

The `lwarp` core and its `lwarp-xcolor` package are tightly integrated to allow comparable results for print, HTML, and print inside an `HTML lateximage`. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When `lwarp-xcolor` is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**`\AtBeginDocument` in print or HTML mode:** See Section 89. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an `HTML lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 532.

**`\color`:**

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML lateximage:** Colors will appear in a lateximage.

**\textcolor:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1223.

**HTML lateximage:** Remembers and reuses the print version.

**\pagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\nopagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\colorbox:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1223.

**HTML lateximage:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes \colorbox.

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1224.

**HTML lateximage:** Remembers and reuses the print version \colorbox.

**\fcolorbox:**

**Print:** Modified to allow a background of none.

\LWR@print@fcolorbox at section 89

**HTML:** Redefined by lwarp-xcolor, page 1224.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 89

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1225.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the lwarp core.

LWR@print@fcolorminipage at section 89

**HTML:** Newly defined by lwarp-xcolor, page 1225.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1226.

**HTML lateximage:** Remembers and reuses the print version.

### § 674.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

2 \let\color@endgroup\endgroup

### § 674.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a lateximage environment:

3 \let\txMacro\LWR@print@pagecolor\pagecolor

4 \let\txMacro\LWR@print@nopcodecolor\nopcodecolor

`\LWR@restoreorigformatting` Inside a lateximage the following gets restored to their print-mode actions:

5 \appto\LWR@restoreorigformatting{%

6 \let\txMacro\pagecolor\LWR@print@pagecolor%

7 \let\txMacro\nopcodecolor\LWR@print@nopcodecolor%

8 }

### § 674.5 \normalcolor

\normalcolor

9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%

10

11 \LWR@formatted{normalcolor}

### § 674.6 HTML color style

`\LWR@findcurrenttextcolor` Sets \LWR@tempcolor to the current color.

12 \renewcommand\*{\LWR@findcurrenttextcolor}{%

13 \LWR@traceinfo{\LWR@findcurrenttextcolor}%

14 \protect\colorlet{\LWR@current@color}{.}%

15 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%

16 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor\relax%

17 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%

18 }

Prints a color style for the current color.

`\LWR@currenttextcolorstyle`

19 \newcommand\*{\LWR@currenttextcolorstyle}{%

20 \LWR@findcurrenttextcolor%

21 \ifdefstring{\LWR@tempcolor}{000000}%

22 }%

23 {color: \LWR@origpound\LWR@tempcolor ; }%

24 }

`\LWR@textcurrentcolor`  $\langle text \rangle$  Like \textcolor but uses the current \color instead.

25 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%

26 \begingroup%

27 \LWR@hook@processingtags%

28 \LWR@findcurrenttextcolor%

```

29   \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
30     \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
31     #1%
32   }%
33   \endgroup%
34 }

```

\LWR@colorstyle

*{<1: model>} {<2: color>}*

For a color style, prints the color converted to HTML colors.

```

35 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
36   \begingroup%
37   \LWR@hook@processingtags%

```

Use the xcolor package to convert to an HTML color space:

```

38   \convertcolourspec{#1}{#2}{HTML}\LWR@tempcolor%

```

Print the converted color:

```

39   \LWR@origpound\LWR@tempcolor%
40   \endgroup%
41 }

```

\LWR@backgroundcolor [*<model>*] {<color>} {<text>}

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

42 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
43   \begingroup%
44   \LWR@hook@processingtags%
45   \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
46     #3%
47   }%
48   \endgroup%
49 }

```

### § 674.7 HTML border

\LWR@borderpadding

*{<colorstyle>} {<color>}* Prints the HTML attributes for a color border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

50 \newcommand*\LWR@borderpadding}[2]{%
51   border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
52   padding:\LWR@printlength{\fboxsep}%
53 }

```

§ 674.8 **High-level macros**

`\color` [*model*] {*color*}

⚠ The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```

54 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
55   \IfValueTF{#1}{%
56     \LWR@print@color[#1]{#2}%
57     \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
58   }{%
59     \LWR@print@color{#2}%
60     \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
61   }%
62   \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
63 }
64
65 \LWR@formatted{color}

```

`\textcolor` [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```

66 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
67   \begingroup%
68   \LWR@hook@processingtags%
69   \IfValueTF{#1}{%
70     \color[#1]{#2}%
71   }{%
72     \color{#2}%
73   }%
74   \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
75   \endgroup%
76 }%
77
78 \LWR@formatted{textcolor}

```

`\pagecolor` [*model*] {*color*}

Ignored. Use CSS instead.

```
79 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
80 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<span>`.

```

81 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
82   \begingroup%

```

```

83 \LWR@hook@processingtags%
84 \InlineClass[%
85 background:\LWR@colorstyle{#1}{#2} ; %
86 padding:\LWR@printlength{\fboxsep}%
87 ]{colorbox}{#3}%
88 \endgroup%
89 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color <div>.

```

90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91 \begingroup%
92 \LWR@hook@processingtags%
93 \LWR@stoppars%
94 \begin{BlockClass}[%
95 background:\LWR@colorstyle{#1}{#2} ; %
96 padding:\LWR@printlength{\fboxsep}%
97 ]{colorboxBlock}
98 #3
99 \end{BlockClass}%
100 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

101 \global\booltrue{\LWR@minipagethispar}%
102 }

```

`\fcolorbox` [*framemodel*] {*framecolor*} [*boxmodel*] {*boxcolor*} {*text*}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

103 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
104 \LWR@traceinfo{HTML fcolorbox #2 #4}%
105 \begingroup%
106 \LWR@hook@processingtags%
107 \LWR@forceminwidth{\fboxrule}%
108 \ifthenelse{\equal{#4}{none}}{%
109   {% no background color
110     \InlineClass[%
111       \LWR@borderpadding{#1}{#2}%
112     ]{fcolorbox}{#5}%
113   }%
114   {% yes background color
115     \InlineClass[%
116       \LWR@borderpadding{#1}{#2} ; %
117       background:\LWR@colorstyle{#3}{#4}%
118     ]{fcolorbox}{#5}%
119   }%
120 \endgroup%
121 }

```



`\fcolorboxBlock` [*<framemodel>*] {*<framecolor>*} [*<boxmodel>*] {*<boxcolor>*} {*<text>*} (*<add'l html style>*)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

122 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m d()}{%
123   \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
124   \begingroup%
125   \LWR@hook@processingtags%
126   \LWR@forceminwidth{\fboxrule}%

127   \LWR@stoppars%

128   \ifthenelse{\equal{#4}{none}}{%
129     {% no background color
130       \begin{BlockClass}[%
131         \LWR@borderpadding{#1}{#2}%
132         \IfValueT{#6}{ ; #6}%
133       ]{fcolorboxBlock}
134       #5
135       \end{BlockClass}%
136     }%
137     {% yes background color
138       \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
139       \begin{BlockClass}[%
140         background:\LWR@origpound\LWR@tempcolortwo\ ; %
141         \LWR@borderpadding{#1}{#2}%
142         \IfValueT{#6}{ ; #6}%
143       ]{fcolorboxBlock}
144       #5
145       \end{BlockClass}%
146     }%
147   \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

148   \global\booltrue{\LWR@minipagethispar}%
149   \LWR@traceinfo{HTML fcolorboxBlock done}%
150 }

```

Creates a framed HTML `<div>` around its contents.

A print-output version is defined in the lwarp core: section 89

```

\LWR@subfcolorminipage   {<framemodel>} {<framecolor>} {<background tag>} {<height>}

151 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

152   \LWR@stoppars%

153   \begin{BlockClass}[%
154     #3%
155     \LWR@borderpadding{#1}{#2} ; %
156     \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
157     width:\LWR@printlength{\LWR@tempwidth}%

```

```

158   ]{fcolorminipage}%
159 }

```

`fcolorminipage (enu)` [`<1:frameodel>`] [`<2:framecolor>`] [`<3:boxmodel>`] [`<4:boxcolor>`] [`<5:align>`] [`<6:height>`] [`<7:inner-align>`] [`<8:width>`]

```

160 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{0{named} m O{#1} m O{c} o o m}
161 {%
162   \LWR@hook@processingtags%
163   \setlength{\LWR@tempwidth}{#8}%
164   \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
165   \LWR@forceminwidth{\fboxrule}%
166   \convertcolourspec{#1}{#2}{HTML}\LWR@tempcolor%
167   \ifthenelse{\equal{#4}{none}}%
168     {\LWR@subfcolorminipage{#1}{#2}{#6}}%
169     {%
170       \convertcolourspec{#3}{#4}{HTML}\LWR@tempcolortwo%
171       \LWR@subfcolorminipage{#1}{#2}%
172       {background:\LWR@origpound\LWR@tempcolortwo ; }%
173       {#6}%
174     }%
175 }%
176 {%
177   \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

178   \global\booltrue{LWR@minipagethispar}%
179 }

```

`\boxframe` [`<width>`] [`<height>`] [`<depth>`]

The depth is added to the height, but the box is not decended below by the depth.  
`\textcolor` is honored.

```

180 \newcommand*{\LWR@HTML@boxframe}[3]{%
181   {%
182     \setlength{\LWR@tempwidth}{#1}%
183     \setlength{\LWR@tempheight}{#2}%
184     \addtolength{\LWR@tempheight}{#3}%
185     \LWR@forceminwidth{\fboxrule}%
186     \LWR@findcurrenttextcolor%
187     \InlineClass[%
188       display:inline-block ; %
189       border:%
190       \LWR@printlength{\LWR@atleastonept} % space
191       solid % space
192       \LWR@currenttextcolor{} ; % space
193       width:\LWR@printlength{\LWR@tempwidth} ; %
194       height:\LWR@printlength{\LWR@tempheight}%
195     ]{boxframe}{}%
196   }%
197 }
198
199 \LWR@formatted{boxframe}

```

§ 674.9 **Row colors**

\rowcol@rs

```

[⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
200 \newcommand*{\LWR@xcolortempcolor}{ }
201
202 \def\rowcol@rs[#1]#2#3#4%
203 {%
204   \rownum=1%
205   \@rowcolorstrue%
206   \ifxempty{#3}%
207     {\def\@oddrowcolor{\@norowcolor}}%
208     {%
209       \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
210       \edef\@oddrowcolor{%
211         \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
212       }%
213     }%
214   \ifxempty{#4}%
215     {\def\@evenrowcolor{\@norowcolor}}%
216     {%
217       \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
218       \edef\@evenrowcolor{%
219         \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
220       }%
221     }%
222   \if@rowcmd
223     \def\@rowcolors
224     {%
225 %       #1%
226     \if@rowcolors
227 %       \noalign{%
228 %         \relax\ifnum\rownum<#2\@norowcolor\else
229 %         \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
230 %       }%
231     \fi%
232   }%
233   \else
234     \def\@rowcolors
235     {%
236     \if@rowcolors
237 %       \ifnum\rownum<#2%
238 %       \noalign{%
239 %         \@norowcolor
240 %       }
241 %       \else
242 %       #1%
243 %       \noalign{%
244 %         \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
245 %       }%
246 %       \fi
247 %     \fi%
248 %   }%
249   \fi
250   \ignorespaces%
251 }

```

\@norowcolor

Turns off color for this row.

```

252 \def\@norowcolor{%
253   \renewcommand{\LWR@xcolorrowHTMLcolor}{ }%

```

254 }

\@rowcol@lors

Executed at the end of each row.

```
255 \def\@rowcol@lors{%
256 %   \noalign{%
257     \advance\rownum\@ne%
258 %   }%
259   \@rowcol@lors%
260 }
```

---

File 566 **lwarp-xexchangebar.sty**

§ 675 Package **xexchangebar**

xexchangebar (*Pkg*) xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{lwarp-changebar}

---

File 567 **lwarp-xellipsis.sty**

§ 676 Package **xellipsis**

*(Emulates or patches code by DONALD P. GOODMAN III.)*

xellipsis (*Pkg*) xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```
2 \newcommand*\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4   \ifdim#1<\fontdimen2\font%
5     \,%
6   \else%
7     ~%
8   \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14   \LWR@xellipsespace{\xelipprebef}%
15   \xelipprechar%
16   \LWR@xellipsespace{\xelippreaft}%
17   \LWR@xellipsespace{\xelipbef}%
18   \xelipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsespace{\xelipgap}%
```

```

23     \xeligchar%
24     \repeat%
25     \LWR@xellipsespace{\xeligaf}%
26     \LWR@xellipsespace{\xeligpostbef}%
27     \xeligpostchar%
28     \LWR@xellipsespace{\xeligpostaft}%
29 }%
30 }%

```

---

File 568 **lwarp-xetexko.sty**

§ 677 Package **xetexko**

*(Emulates or patches code by DOHYUN KIM.)*

xetexko (*Pkg*) xetexko is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]

4 \protected\def\typesetvertical{}
5 \protected\def\typesethorizontal{}
6
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontalrl}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

---

File 569 **lwarp-xevlna.sty**

§ 678 Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

xevlna (*Pkg*) xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%

```


---

File 570 **lwarp-xfakebold.sty**

§ 679 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

`xfakebold` (*Pkg*) `xfakebold` is patched for use by `lwarp`, and additional underlying support is found in the `lwarp` core.

 **text mode** `xfakebold` is only used in `svg` math and `lateximages`. Text mode is not set bold, but `\setBold` in text will be applied to any following `svg` math.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

```
2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9   \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For `MATHJAX`, `xfakebold` is ignored.

```
11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}
```

---


File 571 **lwarp-xfrac.sty**

§ 680 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

`xfrac` (*Pkg*) Supported by adding `xfrac` instances, and emulated for `MATHJAX`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

 **font size** In the user's document preamble, `lwarp` should be loaded after font-related setup. During `HTML` conversion, this font is used by `lwarp` to generate its initial `PDF` output containing `HTML` tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into `svg` images using this same user-selected font. `xfrac` below is set for the Latin Modern (`lmr`) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different `em` size.

`\sfrac` [*<instance>*] [*<num>*] [*<sep>*] [*<denom>*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in `HTML` tags. `\scalebox`

is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

**instances** Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4   numerator-format = {%
5     \begingroup%
6     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7     \InlineClass{numerator}{#1}\,%
8     \endgroup%
9   },
10  denominator-format = {%
11    \begingroup%
12    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13    \InlineClass{denominator}{#1}%
14    \endgroup%
15  },
```

For *pdftotext*, do not scale the text:

```
16   scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20   numerator-format = {%
21     \begingroup%
22     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23     \InlineClass{numerator}{#1}\,%
24     \endgroup%
25   },
26   denominator-format = {%
27     \begingroup%
28     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29     \InlineClass{denominator}{#1}%
30     \endgroup%
31   },
```

For *pdftotext*, do not scale the text:

```
32   scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36   numerator-format = {%
37     \begingroup%
38     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
```

```

39     \InlineClass{numerator}{#1}\,%
40     \endgroup%
41   },
42   denominator-format = {%
43     \begingroup%
44     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45     \InlineClass{denominator}{#1}%
46     \endgroup%
47   },

```

For *pdftotext*, do not scale the text:

```

48   scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52   numerator-format = {%
53     \begingroup%
54     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55     \InlineClass{numerator}{#1}\,%
56     \endgroup%
57   },
58   denominator-format = {%
59     \begingroup%
60     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61     \InlineClass{denominator}{#1}%
62     \endgroup%
63   },

```

For *pdftotext*, do not scale the text:

```

64   scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/{\}^{\LWRsfracnumerator\!#1}_{#2}}}{
68 \CustomizeMathJax{\newcommand{\sfrac}[2][{\}]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```

---


File 572 **lwarp-xltabular.sty**

§ 681 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

`xltabular` (*Pkg*) `xltabular` is emulated by `lwarp`.

**for HTML output:** Relies on `tabularx`.

 **table numbering** At present, an `xltabular` without a caption or with only a `\caption*` may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```
1 \RequirePackage{tabularx}
```



---

```

2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```

---

File 573 **lwarp-xltextra.sty**

§ 682 Package **xltextra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

`xltextra (Pkg)` xltextra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltextra}[2016/01/21]

```

2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 \textsuperscript{#1}\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][[#1]]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

File 574 **lwarp-xmpincl.sty**

§ 683 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

`xmpincl (Pkg)` xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includemp[1]{}

```

---

File 575 **lwarp-xpiano.sty**

§ 684 Package **xpiano**

(Emulates or patches code by ENRICO GREGORIO.)

xpiano (*Pkg*) xpiano is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11   [%
12     -xpiano~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13   ]
14   [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

---

File 576 **lwarp-xpinyin.sty**

§ 685 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

xpinyin (*Pkg*) xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

The original's boxes are not used, instead the contents are used with `<ruby>`, `<rt>`, and `<rp>` tags per modern HTML. Color is detected. `ratio` is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5   \color_group_begin: \color_ensure_current:

```

```

6   \l__xpinyin_pinyin_box_hook_tl
7   \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8   \__xpinyin_select_font:
9   \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10  { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11  { \l__xpinyin_format_tl }
12  \ifdefempty{\l__xpinyin_format_tl}
13  {#3}
14  {\LWR@textcurrentcolor{#3}}
15  \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20   \__xpinyin_leavevmode:
21   \LWR@htmltagc{ruby}
22   \__xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23   \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}\space}
24   \LWR@htmltagc{rt}
25   \__xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26   \LWR@htmltagc{/rt}\space}
27   \LWR@htmltagc{rp})\LWR@htmltagc{/rp}\space}
28   \LWR@htmltagc{/ruby}\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33   \__xpinyin_leavevmode:
34   \LWR@htmltagc{ruby}
35   \__xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
36   \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}\space}
37   \LWR@htmltagc{rt}
38   \__xpinyin_make_pinyin_box:xnn
39   { \__xpinyin_to_unicode:n {#1} } {#1} { \__xpinyin_pinyin:n {#2} }
40   \LWR@htmltagc{/rt}\space}
41   \LWR@htmltagc{rp})\LWR@htmltagc{/rp}\space}
42   \LWR@htmltagc{/ruby}\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The lwarp core uses the following to disable CJK xpinyin for filenames, sidetoc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

---

File 577 **lwarp-xr.sty**

§ 686 Package **Xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

`xr` (*Pkg*) `xr` is patched for use by `lwarp`. The `*_html.aux` file is used. `\externaldocument` is modified to also accept the optional arguments for `xr-hyper`, which currently uses `xr` for HTML output.

See section 5.17.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%
2 \LetLtxMacro\LWR@orig@externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{0{} 0{} m O{}}{%
5   \ifblank{#1}{%
6     \LWR@orig@externaldocument{#3_html}%
7   }{%
8     \LWR@orig@externaldocument[#1]{#3_html}%
9   }%
10 }
```

---

File 578 **lwarp-xr-hyper.sty**

§ 687 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

`xr-hyper` (*Pkg*) `xr-hyper` is replaced by `xr`, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.17.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}
```

---

File 579 **lwarp-xtab.sty**

§ 688 Package **xtab**

(Emulates or patches code by PETER WILSON.)

`xtab` (*Pkg*) `xtab` is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]
```

⚠ Misplaced alignment tab character &

For `\tablefirsthead`, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ `lateximage` `supertabular` and `xtab` are not supported inside a `lateximage`.

```

2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19   \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22   \long\gdef\LWRXT@caption{%
23     \ifblank{#1}%
24       {\caption{#2}}%
25       {\caption[#1]{#2}}%
26   }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*{\LWRXT@caption}{}
32
33 \newcommand*{\shrinkheight}[1]{}
34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

```

```

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 580 **lwarp-xunicode.sty**

§ 689 Package **xunicode**

xunicode (*Pkg*) Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```

4 \providecommand*\LWR@HTML@textcircled[1]{%
5   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10   \renewcommand*\textdegree{}%
11   \renewcommand*\textcelsius{}%
12   \renewcommand*\textohm{}%
13   \renewcommand*\textmu{}%
14   \renewcommand*\textlquill{}%
15   \renewcommand*\textrquill{}%
16   \renewcommand*\textcircledP{}%
17   \renewcommand*\texttwelveudash{}%
18   \renewcommand*\textthreequartersendash{}%
19   \renewcommand*\textmho{}%
20   \renewcommand*\textnaira{}%
21   \renewcommand*\textpeso{}%
22   \renewcommand*\textrecipe{}%
23   \renewcommand*\textinterrobang{}%
24   \renewcommand*\textinterrobangdown{}%
25   \renewcommand*\textperthousand{}%
26   \renewcommand*\textpertenthousand{}%
27   \renewcommand*\textbaht{}%
28   \renewcommand*\textdiscount{}%
29   \renewcommand*\textservicemark{}%
30   \renewcommand*\textcircled[1]{#1}%
31   \renewcommand*\capitalcedilla[1]{#1}%
32   \renewcommand*\capitalogonek[1]{#1}%
33   \renewcommand*\capitalgrave[1]{#1}%
34   \renewcommand*\capitalacute[1]{#1}%
35   \renewcommand*\capitalcircumflex[1]{#1}%

```

```

36 \renewcommand*\capitaltilde}[1]{#1}%
37 \renewcommand*\capitaldieresis}[1]{#1}%
38 \renewcommand*\capitalhungarumlaut}[1]{#1}%
39 \renewcommand*\capitalring}[1]{#1}%
40 \renewcommand*\capitalcaron}[1]{#1}%
41 \renewcommand*\capitalbreve}[1]{#1}%
42 \renewcommand*\capitalmacron}[1]{#1}%
43 \renewcommand*\capitaldotaccent}[1]{#1}%
44 }% FilenameNullify

```

---

File 581 **lwarp-xurl.sty**

§ 690 Package **xurl**

*xurl (Pkg)* xurl is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]  
2  
3 \def\useOriginalUrlSetting{}

---

File 582 **lwarp-xy.sty**

§ 691 Package **xy**

*(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)*

*xy (Pkg)* xy is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```

5 \renewcommand*\xy}{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {\addtocounter{LWR@lateximagedepth}{1}}%
8     {\begin{lateximage}[-xy~\PackageDiagramAltText]}%
9     \LWR@orig@xy%
10 }
11
12 \renewcommand*\endxy}{%
13   \LWR@orig@endxy%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15     {\addtocounter{LWR@lateximagedepth}{-1}}%
16     {\end{lateximage}}%
17 }

```

The `\xybox` must use the original definitions of `\xy`, `\endxy`:

```
18 \def\xybox#1{%
19   \LWR@orig@xy#1\LWR@orig@endxy%
20   \Edge@c={\rectangleEdge}\computeLeftUpness%
21 }
```

If `\xygraph` is used, it is placed inside a `lateximage`:

```
22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27   \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28   \LWR@origxygraph{#1}
29   \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```

---

File 583 **lwarp-zhlineskip.sty**

§ 692 Package **zhlineskip**

`zhlineskip` (*Pkg*) `zhlineskip` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```
2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 584 **lwarp-zwpagelayout.sty**

§ 693 Package **zwpagelayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

`zwpagelayout` (*Pkg*) `zwpagelayout` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

```
2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6   \definecolor{cmykblack}{cmyk}{0,0,0,1}
7   \definecolor{grblack}{gray}{0}
8%   \ifzwpl@redefineblack
9%     \definecolor{black}{cmyk}{0,0,0,1}\color{black}

```



```

10% \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbbblue}{rgb}{0,0,1}
17% \ifzwpl@redefinetcmyk
18% \definecolor{red}{cmyk}{0,1,1,0}
19% \definecolor{green}{cmyk}{1,0,1,0}
20% \definecolor{blue}{cmyk}{1,1,0,0}
21% \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{ }
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\ZW@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\, \arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 585 **lwarp-patch-komascript.sty**

§ 694 Package **patch-komascript**

lwarp-patch-komascript (*Pkg*) Patches for komascript classes.

lwarp loads this package when scrbook, scrartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 \ProvidesPackage{lwarp-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarp-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarp:

```
5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8   \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12   \idx@heading%
13   \index@preamble\par\nobreak
14   \LetLtxMacro\item\LWR@indexitem%
15   \LetLtxMacro\subitem\LWR@indexsubitem%
16   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument
```

The \minisec is placed inside a <div> of class minisec.

```
23 \renewcommand*{\minisec}[1]{
24   \begin{BlockClass}{minisec}
25     #1
26   \end{BlockClass}
27 }
```

The part and chapter preambles are placed as plain text just after each heading.

```
28 \@ifundefined{setpartpreamble}{}{
```

```

29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30   \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36   \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```
39 \renewcommand*\LWR@printchaptername{}
```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42   \LetLtxMacro\captionbelow\caption
43   \LetLtxMacro\captionabove\caption
44
45   \LetLtxMacro\captionofbelow\captionof
46   \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53   \IfValueTF{#1}%
54     {\caption[#1]{#2}}%
55     {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61   \IfValueTF{#2}%
62     {\captionof{#1}[#2]{#3}}%
63     {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*\setcaphanging{}
68 \renewcommand*\setcapwidth}[2][{}
69 \renewcommand*\setcapdynwidth][2][{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 586 **lwarp-patch-memoir.sty**

§ 695 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

lwarp-patch-memoir (*Pkg*) Patches for memoir class.

⚠ **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

⚠ **captions** lwarp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

While emulating memoir, lwarp pre-loads a number of packages (section 695.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

⚠ **options clash**

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

[\label\(bookmark\){tag}](#) \label accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The comment environment is from the comment package, and thus requires that the \begin and \end each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

[\newcomment](#) Comments defined with \newcomment use memoir's definitions, and behave as expected, where the \begin and \end do have to each be on its own line.

⚠ **verbatim footnotes** \verbfootnote is not supported.

⚠ **\newfootnoteseries** \newfootnoteseries, etc. are not supported.

⚠ **page notes** lwarp loads pagenote to perform memoir's pagenote functions, but there are minor differences in \pagenotesubhead and related macros.


[page notes with cleveref](#) To add support for pagenotes with cleveref, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

[page note \nameref](#) Note that for print mode, \nameref print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use fancyvrb instead.

 **glossaries** The memoir glossary system is not yet supported by *lwarpmk*. The *glossaries* package may be used instead, but does require the glossary entries be changed from the memoir syntax to the *glossaries* syntax.

**for HTML output:** `1 \ProvidesPackage{lwarp-patch-memoir}`

## § 695.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but *lwarp* is directly loading the “lwarp-” version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 695.2 Label handling

Insert the `lwarp` label mechanism into the memoir package mechanism:

- `\@mem@old@label` is the L<sup>A</sup>T<sub>E</sub>X definition of `\label`.
- `\LWR@orig@label` becomes the memoir definition.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want memoir's `\label` to use `lwarp`'s `\label`, which then would use L<sup>A</sup>T<sub>E</sub>X's `\label`.
- So:
  - `\@mem@old@label` is set to `\LWR@new@label`.
  - `\LWR@orig@label` is set to `\@mem@old@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by `lwarp`.

```
36 \LetLtxMacro\LWR@orig@label\@mem@old@label
37 \LetLtxMacro\@mem@old@label\LWR@new@label
```

Patches for subfloats to support additional `lwarp` labels. This is the non-hyperref version from memoir.

```
38 \AtBeginDocument{
39   \renewcommand*\sf@memsub@label}[1]{%
40     \@bsphack
41     \sf@memsub@label@hook{#1}%
42 %     \@memoldlabel{#1}%
43     \cref@label{#1}%                lwarp
44     \LWR@label@createtag{sub#1}%    lwarp
45     \protected@write\@auxout{}{%
46       \string\newlabel{sub#1}%
47       {\@nameuse{@@thesub\@capttype}}%
48       {\thepage}}}%
49     \LWR@write@lwarplabel{sub#1}%    lwarp
50     \@esphack
51   }
52 }
```

## § 695.3 Page layout

memoir already set the page size to a default, so it must be forced large for `lwarp`'s use, to avoid tag overflows off the page.

```
53 \setstocksize{190in}{20in}
54 \setlrmarginsandblock{2in}{2in}{*}
55 \setulmarginsandblock{1in}{1in}{*}

56 \renewcommand*\stockavi{}
57 \renewcommand*\stockav{}
58 \renewcommand*\stockaiv{}
59 \renewcommand*\stockaiii{}
```

```
60 \renewcommand*\stockavii{}
61 \renewcommand*\stockbvi{}
62 \renewcommand*\stockbv{}
63 \renewcommand*\stockbiv{}
64 \renewcommand*\stockbiii{}
65 \renewcommand*\stockbvii{}
66 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
67 \renewcommand*\stockmlargecrownvo{}
68 \renewcommand*\stockmdemyvo{}
69 \renewcommand*\stocksmallroyalvo{}
70 \renewcommand*\pageavi{}
71 \renewcommand*\pageavii{}
72 \renewcommand*\pageav{}
73 \renewcommand*\pageaiv{}
74 \renewcommand*\pageaiii{}
75 \renewcommand*\pagebvi{}
76 \renewcommand*\pagebvii{}
77 \renewcommand*\pagebv{}
78 \renewcommand*\pagebiv{}
79 \renewcommand*\pagebiii{}
80 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
81 \renewcommand*\pagemlargecrownvo{}
82 \renewcommand*\pagemdemyvo{}
83 \renewcommand*\pagemsmallroyalvo{}
84
85 \renewcommand*\stockdbill{}
86 \renewcommand*\stockstatement{}
87 \renewcommand*\stockexecutive{}
88 \renewcommand*\stockletter{}
89 \renewcommand*\stockold{}
90 \renewcommand*\stocklegal{}
91 \renewcommand*\stockledger{}
92 \renewcommand*\stockbroadsheet{}
93 \renewcommand*\pagedbill{}
94 \renewcommand*\pagestatement{}
95 \renewcommand*\pageexecutive{}
96 \renewcommand*\pageletter{}
97 \renewcommand*\pageold{}
98 \renewcommand*\pagelegal{}
99 \renewcommand*\pageledger{}
100 \renewcommand*\pagebroadsheet{}
101
102 \renewcommand*\stockpottvo{}
103 \renewcommand*\stockfoolscapvo{}
104 \renewcommand*\stockcrownvo{}
105 \renewcommand*\stockpostvo{}
106 \renewcommand*\stocklargecrownvo{}
107 \renewcommand*\stocklargepostvo{}
108 \renewcommand*\stocksmalldemyvo{}
109 \renewcommand*\stockdemyvo{}
110 \renewcommand*\stockmediumvo{}
111 \renewcommand*\stocksmallroyalvo{}
112 \renewcommand*\stockroyalvo{}
113 \renewcommand*\stocksuperroyalvo{}
114 \renewcommand*\stockimperialvo{}
115 \renewcommand*\pagepottvo{}
116 \renewcommand*\pagefoolscapvo{}
117 \renewcommand*\pagecrownvo{}
118 \renewcommand*\pagepostvo{}
119 \renewcommand*\pagelargecrownvo{}

```

```
120 \renewcommand*\pagelargepostvo{}
121 \renewcommand*\pagesmalldemyvo{}
122 \renewcommand*\pagedemyvo{}
123 \renewcommand*\pagemediumvo{}
124 \renewcommand*\pagesmallroyalvo{}
125 \renewcommand*\pageroyalvo{}
126 \renewcommand*\pagesuperroyalvo{}
127 \renewcommand*\pageimperialvo{}
128
129 \renewcommand*\memfontfamily{}
130 \renewcommand*\memfontenc{}
131 \renewcommand*\memfontpack{}
132
133 \renewcommand*\anyptfilebase{}
134 \renewcommand*\anyptsizesize{10}
135
136 \renewcommand*\setstocksize[2]{}
137 \renewcommand*\settrimmedsize[3]{}
138 \renewcommand*\settrims[2]{}
139
140 % \newlength{\lxvchars}
141 % \setlength{\lxvchars}{305pt}
142 % \newlength{\xlvchars}
143 % \setlength{\xlvchars}{190pt}
144 \renewcommand*\setxlvchars[1]{}
145 \renewcommand*\setlxvchars[1]{}
146
147 \renewcommand*\settypeblocksize[3]{}
148 \renewcommand*\setlrmargins[3]{}
149 \renewcommand*\setlrmarginsandblock[3]{}
150 \renewcommand*\setbinding[1]{}
151 \renewcommand*\setulmargins[3]{}
152 \renewcommand*\setulmarginsandblock[3]{}
153 \renewcommand*\setcolsepandrul[2]{}
154
155 \renewcommand*\setheadfoot[2]{}
156 \renewcommand*\setheaderspaces[3]{}
157 \renewcommand*\setmarginnotes[3]{}
158 \renewcommand*\setfootins[2]{}
159 \renewcommand*\checkandfixthelayout[1][1]{}
160 \renewcommand*\checkthelayout[1]{}
161 \renewcommand*\fixthelayout{}
162 %
163 % \newlength{\stockheight}
164 % \newlength{\trimtop}
165 % \newlength{\trimedge}
166 % \newlength{\stockwidth}
167 % \newlength{\spinemargin}
168 % \newlength{\foremargin}
169 % \newlength{\uppermargin}
170 % \newlength{\headmargin}
171 %
172 \renewcommand*\typeoutlayout{}
173 \renewcommand*\typeoutstandardlayout{}
174 \renewcommand*\settypeoutlayoutunit[1]{}
175 \renewcommand*\fixpdflayout{}
176 \renewcommand*\fixdvipslayout{}
177
178 \renewcommand*\medievalpage[1][1]{}
179 \renewcommand*\isopage[1][1]{}

```



```

180 \renewcommand*\semiisopage}[1][{}
181
182 \renewcommand\setpagebl}[3]{}
183 \renewcommand\setpageml}[3]{}
184 \renewcommand\setpagetl}[3]{}
185 \renewcommand\setpagetm}[3]{}
186 \renewcommand\setpagetr}[3]{}
187 \renewcommand\setpagemr}[3]{}
188 \renewcommand\setpagebr}[3]{}
189 \renewcommand\setpagebm}[3]{}
190 \renewcommand\setpagecc}[3]{}

```

#### § 695.4 Text and fonts

```

191 \let\miniscule\tiny
192 \let\HUGE\Huge
193
194 \renewcommand*\abnormalparskip}[1]{}
195 \renewcommand*\nonzeroparskip{}
196 \renewcommand*\traditionalparskip{}
197
198 \let\onelineskip\baselineskip
199
200 \let\OnehalfSpacing\onehalfspacing
201 \let\DoubleSpacing\doublespacing
202 \renewcommand*\setPagenoteSpacing}[1]{}
203 \renewcommand*\setFloatSpacing}[1]{}

204 \renewcommand\SingleSpacing{\@ifstar\singlespacing\singlespacing}

205 \let\setSingleSpace\SetSingleSpace
206 \let\SingleSpace\singleSpace
207 \let\endSingleSpace\endSingleSpace
208 \let\Spacing\spacing
209 \let\endSpacing\endSpacing
210 \let\OnehalfSpace\onehalfSpace
211 \let\endOnehalfSpace\endonehalfSpace
212 \csletcs{OnehalfSpace*}{onehalfspace}
213 \csletcs{endOnehalfSpace*}{endonehalfspace}
214 \let\DoubleSpace\doublespace
215 \let\endDoubleSpace\enddoublespace
216 \csletcs{DoubleSpace*}{doublespace}
217 \csletcs{endDoubleSpace*}{enddoublespace}
218 \renewcommand*\setDisplayskipStretch}[1]{}
219 \renewcommand*\memdskipstretch{}
220 \renewcommand*\noDisplayskipStretch{}
221 \renewcommand*\memdskips{}
222
223 \renewcommand*\midslippy{}
224 \renewenvironment*{midslippy}{\relax}{}
225
226 \renewcommand*\slippybottom{}

```

#### § 695.5 Titles

```

227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand\{titlingpageend}[2]{}
231 \let\andnext\and

```

```

232 \renewcommand*\thanksmarkstyle}[1]{}
233
234 \renewcommand{\thanksfootmark}{%
235   \thanksscript{\tmark}%
236 }
237
238 % \newlength{\thanksmarksep}% already provided by memoir

```

```

239 \renewcommand\titlingpageend[2]{}

```

## § 695.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol{}
243 \renewcommand*\abstractintoc{}
244 \renewcommand*\abstractnum{}
245 \renewcommand*\abstractrunin{}

```

## § 695.7 Document divisions

\book

```

* (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}

```

```

246 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
247   \LWR@section{#1}{#3}{#6}{book}%
248 }

```

```

249 \def\@apppage{%
250   \part*\appendixpagename}
251 }
252 \renewcommand\mempreaddappagetotochook{}
253 \renewcommand\mempostaddappagetotochook{}
254
255 \def\@sapppage{%
256   \part*\appendixpagename}
257 }

```

```

258 \DeclareDocumentCommand{\mainmatter}{s}{%
259   \booltrue{LWR@mainmatter}%
260 }
261
262 \DeclareDocumentCommand{\frontmatter}{s}{%
263   \boolfalse{LWR@mainmatter}%
264 }

```

```

265 \renewcommand*\raggedbottomsection{}
266 \renewcommand*\normalbottomsection{}
267 \renewcommand*\bottomsectionskip{}
268 \renewcommand*\bottomsectionpenalty{}
269 \csletcs{appendixpage*}{appendixpage}
270 \renewcommand*\namedsubappendices{}
271 \renewcommand*\unnamedsubappendices{}
272 \renewcommand*\beforebookskip{}
273 \renewcommand*\afterbookskip{}
274 \renewcommand*\beforepartskip{}
275 \renewcommand*\afterpartskip{}
276 \renewcommand*\midbookskip{}

```

```
277 \renewcommand*\midpartskip{}
278 \renewcommand*\printbookname{}
279 \renewcommand*\booknamefont{}
280 \renewcommand*\booknamenum{}
281 \renewcommand*\printbooknum{}
282 \renewcommand*\booknumfont{}
283 \renewcommand*\printpartname{}
284 \renewcommand*\partnamefont{}
285 \renewcommand*\partnamenum{}
286 \renewcommand*\printpartnum{}
287 \renewcommand*\partnumfont{}
288 \renewcommand*\printbooktitle[1]{}
289 \renewcommand*\booktitlefont{}
290 \renewcommand*\printparttitle[1]{}
291 \renewcommand*\parttitlefont{}
292 \renewcommand*\bookpageend{}
293 \renewcommand*\bookblankpage{}
294 \renewcommand*\nobookblankpage{}
295 \renewcommand*\partpageend{}
296 \renewcommand*\partblankpage{}
297 \renewcommand*\nopartblankpage{}
298 \RenewDocumentCommand\newleadpage{s o m m}{}% todo
299 \RenewDocumentCommand\renewleadpage{s o m m}{}% todo
300 \renewcommand*\leadpagetoclevel{chapter}
301
302 \renewcommand*\openright{}
303 \renewcommand*\openleft{}
304 \renewcommand*\openany{}
305 \renewcommand*\clearforchapter{}
306 \renewcommand*\memendofchapterhook{}
307 \renewcommand*\chapterheadstart{}
308 % \newlength\beforechapskip
309 \renewcommand*\afterchapternum{}
310 % \newlength\midchapskip
311 \renewcommand*\afterchaptertitle{}
312 % \newlength\afterchapskip
313 \renewcommand*\printchaptername{}
314 \renewcommand*\chapnamefont{}
315 \renewcommand*\chapternamenum{}
316 \renewcommand*\printchapternum{}
317 \renewcommand*\chapnumfont{}
318 \renewcommand*\printchaptertitle[1]{}
319 \renewcommand*\chaptitlefont{}
320 \renewcommand*\printchapternonum{}
321 \renewcommand*\indentafterchapter{}
322 \renewcommand*\noindentafterchapter{}
323 \renewcommand*\insertchapterspace{}
324
325 \renewcommand*\chapterstyle[1]{}
326 \renewcommand*\makechapterstyle[2]{}
327 \renewcommand*\chapindent{}
328 \let\chapterprecis\cftchapterprecis
329 \let\chapterprecishere\cftchapterprecishere
330 \let\chapterprecistoc\cftchapterprecistoc
331 \renewcommand*\precisfont{}
332 \renewcommand*\prechapterprecis{}
333 \renewcommand*\postchapterprecis{}
334 \renewcommand*\precistoc[1]{}
335 \renewcommand*\precistocfont{}
336 \renewcommand*\precistocformat{}

```

```
337 % \newlength{\prechapterprecisshift}
338
339 \renewcommand*{\setbeforesecskip}[1]{ }
340 \renewcommand*{\setaftersecskip}[1]{ }
341 \renewcommand*{\setsecindent}[1]{ }
342 \renewcommand*{\setsecheadstyle}[1]{ }
343 \renewcommand*{\setbeforesubsecskip}[1]{ }
344 \renewcommand*{\setaftersubsecskip}[1]{ }
345 \renewcommand*{\setsubsecindent}[1]{ }
346 \renewcommand*{\setsubsecheadstyle}[1]{ }
347 \renewcommand*{\setbeforesubsubsecskip}[1]{ }
348 \renewcommand*{\setaftersubsubsecskip}[1]{ }
349 \renewcommand*{\setsubsubsecindent}[1]{ }
350 \renewcommand*{\setsubsubsecheadstyle}[1]{ }
351 \renewcommand*{\setbeforeparaskip}[1]{ }
352 \renewcommand*{\setafterparaskip}[1]{ }
353 \renewcommand*{\setparaindent}[1]{ }
354 \renewcommand*{\setparaheadstyle}[1]{ }
355 \renewcommand*{\setbeforesubparaskip}[1]{ }
356 \renewcommand*{\setaftersubparaskip}[1]{ }
357 \renewcommand*{\setsubparaindent}[1]{ }
358 \renewcommand*{\setsubparaheadstyle}[1]{ }
359 \renewcommand{\@hangfrom}[1]{#1}
360 \renewcommand{\sethangfrom}[1]{ }
361 \renewcommand{\setsecnumformat}[1]{ }
362
363 \renewcommand*{\hangsecnum}{ }
364 \renewcommand*{\defaultsecnum}{ }
365
366 \renewcommand*{\sechook}{ }
367 \renewcommand{\setsechook}[1]{ }
368 \renewcommand*{\subsechook}{ }
369 \renewcommand{\setsubsechook}[1]{ }
370 \renewcommand*{\subsubsechook}{ }
371 \renewcommand{\setsubsubsechook}[1]{ }
372 \renewcommand*{\parahook}{ }
373 \renewcommand{\setparahook}[1]{ }
374 \renewcommand*{\subparahook}{ }
375 \renewcommand{\setsubparahook}[1]{ }
376
377 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
378
379 \RenewDocumentCommand{\fancybreak}{s +m}{%
380   \begin{center}#2\end{center}%
381 }
382
383 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
384   \begin{center}#4\end{center}%
385 }
386
387 \RenewDocumentCommand{\pfbreak}{s}{%
388   \begin{center}
389     \pfbreakdisplay
390   \end{center}
391 }
392
393 % \newlength{\pfbreakskip}
394 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
395
396 \renewcommand{\makeheadstyles}[2]{ }
```



```
452 \renewcommand*\showheadfootlocoff{}
453 \renewcommand*\showtextblocklocoff{}
```

### § 695.9 Paragraphs and lists

```
454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*\raggedyright}[1][{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourceatright}[2][{\attribution{#2}}
459 \let\memorigdb\LWR@endofline

460 \renewcommand*\memorigpar}{\par}

461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*\linenottooshort}[1][{}
464 \renewcommand*\russianpar}{
465 \renewcommand*\lastlinerulefill}{
466 \renewcommand*\lastlineparrule}{
467 \renewcommand*\justlastraggedleft}{
468 \renewcommand*\raggedrightthenleft}{
469 \renewcommand*\leftcenterright}{
470
471 \renewcommand{\leftspringright}[4]{%
472   \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
473   \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \renewenvironment*{blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
481 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
482 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*\tightlists}{
484 \renewcommand*\defaultlists}{
485 \RenewDocumentCommand{\firmlists}{s}{
486 \renewcommand*\firmlist}{
487 \renewcommand*\tightlist}{
488 \renewcommand*\zerotrivseps}{
489 \renewcommand*\savetrivseps}{
490 \renewcommand*\restoretrivseps}{}
```

### § 695.10 Contents lists

```
491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc}{
496 \renewcommand*\twocoltocetc}{
497 \renewcommand*\ensureonecol}{
498 \renewcommand*\restorefromonecol}{
499 \renewcommand*\doccoltocetc}{
500
501 \renewcommand{\toheadstart}{
502 \renewcommand{\printtoctitle}[1]{
503 \renewcommand{\tocmark}{}
```

```

504 \renewcommand{\aftertoctitle}{}
505 \renewcommand{\lofheadstart}{}
506 \renewcommand{\printloftitle}[1]{}
507 \renewcommand{\lofmark}{}
508 \renewcommand{\afterloftitle}{}
509 \renewcommand{\lotheadstart}{}
510 \renewcommand{\printlottitle}[1]{}
511 \renewcommand{\lotmark}{}
512 \renewcommand{\afterlottitle}{}
513
514 \renewcommand*\setpnumwidth[1]{}
515 \renewcommand*\setrmarg[1]{}
516 \renewcommand*\cftbookbreak{}
517 \renewcommand*\cftpartbreak{}
518 \renewcommand*\cftchapterbreak{}

519 % \newlength{\cftbeforebookskip}
520 % \newlength{\cftbookindent}
521 % \newlength{\cftbooknumwidth}
522 \renewcommand*\cftbookfont{}
523 \renewcommand*\cftbookname{}
524 \renewcommand*\cftbookpresnum{}
525 \renewcommand*\cftbookaftersnum{}
526 \renewcommand*\cftbookaftersnumb{}
527 \renewcommand*\cftbookleader{}
528 \renewcommand*\cftbookdotsep{1}
529 \renewcommand*\cftbookpagefont{}
530 \renewcommand*\cftbookafterpnum{}
531 \renewcommand*\cftbookformatpnum[1]{}
532 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by tocloft.

```

533 % \newlength{\cftbeforechapterskip}
534 % \newlength{\cftchapterindent}
535 % \newlength{\cftchapternumwidth}
536 \renewcommand*\cftchapterfont{}
537 \renewcommand*\cftchaptername{}
538 \renewcommand*\cftchapterpresnum{}
539 \renewcommand*\cftchapteraftersnum{}
540 \renewcommand*\cftchapteraftersnumb{}
541 \renewcommand*\cftchapterleader{}
542 \renewcommand*\cftchapterdotsep{1}
543 \renewcommand*\cftchapterpagefont{}
544 \renewcommand*\cftchapterafterpnum{}
545 \renewcommand*\cftchapterformatpnum[1]{}
546 \renewcommand*\cftchapterformatpnumhook[1]{}

547 % \newlength{\cftbeforesectionsip}
548 % \newlength{\cftsectionindent}
549 % \newlength{\cftsectionnumwidth}
550 \renewcommand*\cftsectionfont{}
551 \renewcommand*\cftsectionname{}
552 \renewcommand*\cftsectionpresnum{}
553 \renewcommand*\cftsectionaftersnum{}
554 \renewcommand*\cftsectionaftersnumb{}
555 \renewcommand*\cftsectionleader{}
556 \renewcommand*\cftsectiondotsep{1}
557 \renewcommand*\cftsectionpagefont{}
558 \renewcommand*\cftsectionafterpnum{}

```

```
559 \renewcommand*\cftsectionformatpnum}[1]{}
560 \renewcommand*\cftsectionformatpnumhook}[1]{}

561 % \newlength{\cftbeforesubsections skip}
562 % \newlength{\cftsubsubsection indent}
563 % \newlength{\cftsubsubsection numwidth}
564 \renewcommand*\cftsubsubsection font{}
565 \renewcommand*\cftsubsubsection name{}
566 \renewcommand*\cftsubsubsection presnum{}
567 \renewcommand*\cftsubsubsection aftersnum{}
568 \renewcommand*\cftsubsubsection aftersnumb{}
569 \renewcommand*\cftsubsubsection leader{}
570 \renewcommand*\cftsubsubsection dotsep}{1}
571 \renewcommand*\cftsubsubsection pagefont{}
572 \renewcommand*\cftsubsubsection afterpnum{}
573 \renewcommand*\cftsubsubsection formatpnum}[1]{}
574 \renewcommand*\cftsubsubsection formatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsections skip}
576 % \newlength{\cftsubsubsubsection indent}
577 % \newlength{\cftsubsubsubsection numwidth}
578 \renewcommand*\cftsubsubsubsection font{}
579 \renewcommand*\cftsubsubsubsection name{}
580 \renewcommand*\cftsubsubsubsection presnum{}
581 \renewcommand*\cftsubsubsubsection aftersnum{}
582 \renewcommand*\cftsubsubsubsection aftersnumb{}
583 \renewcommand*\cftsubsubsubsection leader{}
584 \renewcommand*\cftsubsubsubsection dotsep}{1}
585 \renewcommand*\cftsubsubsubsection pagefont{}
586 \renewcommand*\cftsubsubsubsection afterpnum{}
587 \renewcommand*\cftsubsubsubsection formatpnum}[1]{}
588 \renewcommand*\cftsubsubsubsection formatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraph skip}
590 % \newlength{\cftparagraph indent}
591 % \newlength{\cftparagraph numwidth}
592 \renewcommand*\cftparagraph font{}
593 \renewcommand*\cftparagraph name{}
594 \renewcommand*\cftparagraph presnum{}
595 \renewcommand*\cftparagraph aftersnum{}
596 \renewcommand*\cftparagraph aftersnumb{}
597 \renewcommand*\cftparagraph leader{}
598 \renewcommand*\cftparagraph dotsep}{1}
599 \renewcommand*\cftparagraph pagefont{}
600 \renewcommand*\cftparagraph afterpnum{}
601 \renewcommand*\cftparagraph formatpnum}[1]{}
602 \renewcommand*\cftparagraph formatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraph skip}
604 % \newlength{\cftsubparagraph indent}
605 % \newlength{\cftsubparagraph numwidth}
606 \renewcommand*\cftsubparagraph font{}
607 \renewcommand*\cftsubparagraph name{}
608 \renewcommand*\cftsubparagraph presnum{}
609 \renewcommand*\cftsubparagraph aftersnum{}
610 \renewcommand*\cftsubparagraph aftersnumb{}
611 \renewcommand*\cftsubparagraph leader{}
612 \renewcommand*\cftsubparagraph dotsep}{1}
613 \renewcommand*\cftsubparagraph pagefont{}
614 \renewcommand*\cftsubparagraph afterpnum{}
615 \renewcommand*\cftsubparagraph formatpnum}[1]{}

```



```
616 \renewcommand*\cftsubparagraphformatpnumhook}[1]{}

617 % \newlength{\cftbeforefigureskip}
618 % \newlength{\cftfigureindent}
619 % \newlength{\cftfigureenumwidth}
620 \renewcommand*\cftfigurefont{}
621 \renewcommand*\cftfigurename{}
622 \renewcommand*\cftfigurepresnum{}
623 \renewcommand*\cftfigureaftersnum{}
624 \renewcommand*\cftfigureaftersnumb{}
625 \renewcommand*\cftfigureleader{}
626 \renewcommand*\cftfiguredotsep}{1}
627 \renewcommand*\cftfigurepagefont{}
628 \renewcommand*\cftfigureafterpnum{}
629 \renewcommand*\cftfigureformatpnum}[1]{}
630 \renewcommand*\cftfigureformatpnumhook}[1]{}

631 % \newlength{\cftbeforesubfigureskip}
632 % \newlength{\cftsubfigureindent}
633 % \newlength{\cftsubfigureenumwidth}
634 \newcommand*\cftsubfigurefont{}
635 \newcommand*\cftsubfigurename{}
636 \newcommand*\cftsubfigurepresnum{}
637 \newcommand*\cftsubfigureaftersnum{}
638 \newcommand*\cftsubfigureaftersnumb{}
639 \newcommand*\cftsubfigureleader{}
640 \newcommand*\cftsubfiguredotsep}{1}
641 \newcommand*\cftsubfigurepagefont{}
642 \newcommand*\cftsubfigureafterpnum{}
643 \newcommand*\cftsubfigureformatpnum}[1]{}
644 \newcommand*\cftsubfigureformatpnumhook}[1]{}

645 % \newlength{\cftbeforetableskip}
646 % \newlength{\cfttableindent}
647 % \newlength{\cfttableenumwidth}
648 \renewcommand*\cfttablefont{}
649 \renewcommand*\cfttablename{}
650 \renewcommand*\cfttablepresnum{}
651 \renewcommand*\cfttableaftersnum{}
652 \renewcommand*\cfttableaftersnumb{}
653 \renewcommand*\cfttableleader{}
654 \renewcommand*\cfttabledotsep}{1}
655 \renewcommand*\cfttablepagefont{}
656 \renewcommand*\cfttableafterpnum{}
657 \renewcommand*\cfttableformatpnum}[1]{}
658 \renewcommand*\cfttableformatpnumhook}[1]{}

659 % \newlength{\cftbeforesubtableskip}
660 % \newlength{\cftsubtableindent}
661 % \newlength{\cftsubtableenumwidth}
662 \newcommand*\cftsubtablefont{}
663 \newcommand*\cftsubtablename{}
664 \newcommand*\cftsubtablepresnum{}
665 \newcommand*\cftsubtableaftersnum{}
666 \newcommand*\cftsubtableaftersnumb{}
667 \newcommand*\cftsubtableleader{}
668 \newcommand*\cftsubtabledotsep}{1}
669 \newcommand*\cftsubtablepagefont{}
670 \newcommand*\cftsubtableafterpnum{}
671 \newcommand*\cftsubtableformatpnum}[1]{}
672 \newcommand*\cftsubtableformatpnumhook}[1]{}

```

```

673 \renewcommand*\booknumberline}[1]{}
674 \renewcommand*\partnumberline}[1]{}
675 \renewcommand*\chapternumberline}[1]{}
676 \renewcommand*\numberlinehook}[1]{}
677 % \renewcommand*\cftwhatismyname}{}%
678 \renewcommand*\booknumberlinehook}[1]{}
679 \renewcommand*\partnumberlinehook}[1]{}
680 \renewcommand*\chapternumberlinehook}[1]{}
681 \renewcommand\{numberlinebox}[2]{}
682 \renewcommand\{booknumberlinebox}[2]{}
683 \renewcommand\{partnumberlinebox}[2]{}
684 \renewcommand\{chapternumberlinebox}[2]{}
685 %
686 % \newlength\{cftparfillskip}
687 \renewcommand*\cftpagenumbersoff}[1]{}
688 \renewcommand*\cftpagenumberson}[1]{}
689 \renewcommand*\cftlocalchange}[3]{}
690 \renewcommand*\cftaddtitleline}[4]{}
691 \renewcommand*\cftaddnumtitleline}[4]{}
692 \renewcommand\{cftinsertcode}[2]{}
693 \renewcommand\{cftinserthook}[2]{}
694 \renewcommand\{settocpreprocessor}[2]{}
695 \DeclareRobustCommand\{cftpagenumbersoff}[1]{}
696 \DeclareRobustCommand\{cftpagenumberson}[1]{}

```

## § 695.11 Floats and captions

\@xfloat

\@xdblfloat

Reestablish lwarp's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def\@xfloat #1[#2]{%
699   \LWR@floatbegin{#1}[#2]
700   \normalsize
701   \@nameuse{#1adjustment}%
702   \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def\@xdblfloat #1[#2]{%
705   \LWR@floatbegin{#1}[#2]
706   \normalsize
707   \@nameuse{#1adjustment}%
708   \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }

```

\newfloat

[<1: *within*>] {<2: *type*>} {<3: *ext*>} {<4: *capname*>}

```

711 \RenewDocumentCommand\newfloat}{o m m m}{%
712   \def\LWR@tempone{#4}%
713   \def\LWR@temptwo{\@nameuse{#2name}}%
714   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715     \IfValueTF{#1}%
716       {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
717       {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
718   }{% not recursive name
719     \IfValueTF{#1}%
720       {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721       {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722   }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
723 \cslet{listof#2s}\relax%
724 \cslet{listof#2es}\relax%
725 }
```

`\newlistof`

`[<within>] {<type>} {<ext>} {<listofname>}`

Emulated through the `\newfloat` mechanism. Note that memoir uses a different syntax than `tocloft` for the name.

```
726 \RenewDocumentCommand{\newlistof}{o m m m}
727 {%
728   \IfValueTF{#1}%
729     {\newlistentry[#1]{#2}{#3}{0}}%
730     {\newlistentry{#2}{#3}{0}}%
731   \@namedef{ext@#2}{#3}%
732   \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
733   \setcounter{#3depth}{1}%
734   \@namedef{#3mark}{}%
735   \@namedef{#2}{\LWR@listof{#2}{#4}}%
736   \@namedef{@cftmake#3title}{}%
737   \@ifundefined{cftbefore#3titleskip}{%
738     \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
739     \expandafter\newlength\csname cftafter#3titleskip\endcsname%
740   }{}%
741   \@namedef{cft#3titlefont}{}%
742   \@namedef{cftafter#3title}{}%
743   \@namedef{cft#3prehook}{}%
744   \@namedef{cft#3posthook}{}%
745 }

746 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```
747 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
748 {% start
749   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
750   \renewcommand*{\@capttype}{#2}%
751 }
752 {%
753   \endLWR@BlockClassWP%
754 }
755
756 \DeclareDocumentEnvironment{marginfigure}{o}
757   {\begin{KFLTmemoir@marginfloat}{figure}}
758   {\end{KFLTmemoir@marginfloat}}
759
760 \DeclareDocumentEnvironment{margintable}{o}
761   {\begin{KFLTmemoir@marginfloat}{table}}
762   {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*{\mpjustification}{}
766 \renewcommand*{\setfloatlocations}[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}
768 \renewcommand*{\FloatBlock}{}

```

```

769 \renewcommand*\FloatBlockAllowAbove{}
770 \renewcommand*\FloatBlockAllowBelow{}
771 \renewcommand*\setFloatBlockFor{}
772
773 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

774 \renewcommand{\flegtable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtocfigure}{}
777 \renewcommand{\flegtocfigure}{}

778 \renewcommand{\@makesubfloatcaption}[2]{%
779   \minipagefullwidth
780   \begin{minipage}{\linewidth}%
781     #1 \ignorespaces #2 \unskip%
782   \end{minipage}
783 }
784
785 \renewcommand*\tightsubcaptions{}
786 \renewcommand*\loosesubcaptions{}
787
788 \renewcommand*\subcaptionsize[1]{}
789 \renewcommand*\subcaptionlabelfont[1]{}
790 \renewcommand*\subcaptionfont[1]{}
791 \renewcommand*\subcaptionstyle[1]{}
792
793 \renewcommand*\hangsubcaption{}
794 \renewcommand*\shortsubcaption{}
795 \renewcommand*\normalsubcaption{}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}
799 {%
800   \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801   \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*\setsidecaps[2]{}
807 \renewcommand*\sidecapmargin[1]{}
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*\setsidecappos[1]{}

```

Env sidecontcaption

```

811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814   \ifdef{\ContinuedFloat}%
815     {\ContinuedFloat}%
816     {\addtocounter{\@capttype}{-1}}%
817   \caption{#1}%

```

Without `\@capttype`, the section is referred to instead.

```
818 \IfValueT{#2}{\label[\@capttype]{#2}}%
819 }
```

`\sidenamedlegend` does not appear to use the `toc` argument.

```
820 \renewenvironment{sidenamedlegend}[2][]{
821   \begin{center}
822     \@nameuse{\@capttype name}\CaptionSeparator#2
823   \end{center}
824 }
825 {}
826
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829   #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*\sidecapstyle{}
835 \renewcommand*\overridescapmargin[1]{}
836 % \newlength\sidecapraise
837 \renewcommand*\sidecapfloatwidth{\linewidth}
838
839 \LetLtxMacro\ctabular\tabular
840 \LetLtxMacro\endctabular\endtabular
841
842 \renewcommand{\autorows}[5][]{%
843   #5%
844 }
845
846 \renewcommand{\autocols}[5][]{%
847   #5%
848 }
```

## § 695.12 Footnotes and page notes

```
849 \renewcommand*\feetabovefloat{}
850 \renewcommand*\feetbelowfloat{}
851 \renewcommand*\feetatbottom{}
852
853 \renewcommand*\verbfootnote[2][]{%
854   \PackageError{lwarp, memoir}%
855     {Verbatim footnotes are not yet supported by lwarp}%
856     {This may be improved some day.}%
857 }
858
859 \renewcommand*\plainfootnotes{}
860 \renewcommand*\twocolumnfootnotes{}
861 \renewcommand*\threecolumnfootnotes{}
862 \renewcommand*\paragraphfootnotes{}
863 \renewcommand*\footfudgefiddle{}
864
865 \renewcommand*\newfootnoteseries[1][%
866   \PackageError{lwarp, memoir}%
867     {M memoir footnote series are not yet supported by lwarp}%
868     {This may be improved some day.}%
869 }
870
```

```
871 \renewcommand*\plainfootstyle}[1]{}
872 \renewcommand*\twocolumnfootstyle}[1]{}
873 \renewcommand*\threecolumnfootstyle}[1]{}
874 \renewcommand*\paragraphfootstyle}[1]{}
875
876 \renewcommand*\footfootmark{}
877 \renewcommand*\footmarkstyle}[1]{}
878
879 % \newlength{\footmarkwidth}
880 % \newlength{\footmarksep}
881 % \newlength{\footparindent}
882
883 \renewcommand*\foottextfont{}
884
885 \renewcommand*\marginparmargin}[1]{}
886 \renewcommand*\sideparmargin}[1]{}
887
888 \LetLtxMacro\sidepar\marginpar
889 \renewcommand*\sideparfont{}
890 \renewcommand*\sideparform{}
891 \LWR@providelength{\sideparvshift}
892
893 \renewcommand*\parnopar{}
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
896 \renewcommand*\sidebarmargin}[1]{}
897 \renewcommand*\sidebarfont{}
898 \renewcommand*\sidebarform{}
899 % \newlength{\sidebarhsep}
900 % \newlength{\sidebarvsep}
901 % \newlength{\sidebarwidth}
902 % \newlength{\sidebartopsep}
903 \renewcommand{\setsidebarheight}[1]{}
904 \renewcommand*\setsidebars}[6]{}
905 \renewcommand*\footnotesatfoot{}
906 \renewcommand*\footnotesinmargin{}
907
908 \LetLtxMacro\sidefootnote\footnote
909 \LetLtxMacro\sidefootnotemark\footnotemark
910 \LetLtxMacro\sidefootnotetext\footnotetext
911
912 \renewcommand*\sidefootmargin}[1]{}
913 % \newlength{\sidefoothsep}
914 % \newlength{\sidefootvsep}
915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*\setsidefootheight}[1]{}
919 % \renewcommand*\sidefootfont{}% in docs but not in the package
920 \renewcommand*\setsidefeet}[6]{}
921 \renewcommand*\sidefootmarkstyle}[1]{}
922 \renewcommand*\sidefoottextfont{}
923 \renewcommand*\sidefootform{}

924 \renewcommand*\continuousnotenums{\pncontopttrue}% from pagenote
925 \renewcommand*\notepageref{}
926 \renewcommand*\prenotetext{}
927 \renewcommand*\postnotetext{}
928 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
929 \renewcommand*\foottopagenote{}

```

```
930 \renewcommand*{\pagetofootnote}{}
```

```
\m@m@wrpnote
```

```
\startnoteentrystart
```

To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

⚠ `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```
931 \xpatchcmd{\m@m@wrpnote}
932   {\string\startnoteentry{\thepagenote}}
933   {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}
934   {}
935   {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938   \prenoteinnotes%
939   \noteidinnotes{\@firstoftwo#1}{#2}%
940   \ifmtarg{#2}{%
941     \phantomsection\def\@currentlabel{#1}%           original
942     \def\@currentlabel{\@firstoftwo#1}%             lwarp
943     \def\cref@currentlabel{%                         lwarp
944       [pagenote][\@secondoftwo#1][\@firstoftwo#1%   lwarp
945     ]}%                                              lwarp
946   }{}%
947   \pagenoteanchor{#4}%
948   \pageinnotes{#3}%
949   \prenotetext%
950 }
```

### § 695.13 Decorative text

```
951 \renewcommand*{\epigraphposition}[1]{}
952 \renewcommand*{\epigraphtextposition}[1]{}
953 \renewcommand*{\epigraphsourceposition}[1]{}
954 \renewcommand*{\epigraphfontsize}[1]{}
955 \renewcommand*{\epigraphforheader}[2][]{}
956 \renewcommand*{\epigraphpicture}{}
```

### § 695.14 Poetry

```
957 \renewcommand*{\vinphantom}{}
958 \renewcommand*{\vleftofline}[1]{#1}
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*{\linenumberfont}[1]{}
961
962 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
963   \IfValueTF{#2}%
964     {\poemtitle[#2]{#4}}%
965     {\poemtitle{#4}}%
966 }
967
968 \renewcommand*{\NumberPoemTitle}{}
969 \renewcommand*{\PlainPoemTitle}{}
970 \renewcommand*{\poemtitlepstyle}{}

```

```

971 \renewcommand*\poemtitlestartmark}[1]{}
972 \renewcommand*\poemtitlestartstyle{}
973 \renewcommand*\PoemTitleheadstart{}
974 \renewcommand*\printPoemTitlenonum{}
975 \renewcommand*\printPoemTitlenum{}
976 \renewcommand*\afterPoemTitlenum{}
977 \renewcommand*\printPoemTitletitle}[1]{}
978 \renewcommand*\afterPoemTitle{}
979 \newlength{\midpoemtitleskip}
980 \renewcommand*\PoemTitlenumfont{}
981 \renewcommand*\PoemTitlefont{}

```

### § 695.15 **Boxes, verbatims and files**

```

982 \renewenvironment{qframe}{\framed}{\endframed}
983 \renewenvironment{qshade}{\shaded}{\endshaded}

984 \renewcommand*\setverbatimfont}[1]{}
985 \renewcommand*\tabson}[1]{}
986 \renewcommand*\tabsoff{}
987 \renewcommand*\wrappingon{}
988 \renewcommand*\wrappingoff{}
989 \renewcommand*\verbatimindent{}
990 \renewcommand*\verbatimbreakchar}[1]{}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.

```

992 \renewcommand*\bvbox{}
993 \renewcommand*\bvtopandtail{}
994 \renewcommand*\bvside{}
995 \renewcommand*\nobvbox{}
996 % \newlength\bvboxsep
997 \renewcommand*\bvtoprulehook{}
998 \renewcommand*\bvtopmidhook{}
999 \renewcommand*\bvendrulehook{}
1000 \renewcommand*\bvleftsidehook{}
1001 \renewcommand*\bvrightsidehook{}
1002 \renewcommand*\bvperpagetrue{}
1003 \renewcommand*\bvperpagefalse{}
1004 \renewcommand{\bvtopofpage}[1]{}
1005 \renewcommand{\bvendofpage}[1]{}
1006 \renewcommand*\linenumberfrequency}[1]{}
1007 \renewcommand*\resetbvinenumber{}
1008 \renewcommand*\setbvinenums}[2]{}
1009 \renewcommand*\linenumberfont}[1]{}
1010 \renewcommand*\bvnumbersinside{}
1011 \renewcommand*\bvnumbersoutside{}

```

### § 695.16 **Cross referencing**

```

1012 \renewcommand*\fref}[1]{\cref{#1}}
1013 \renewcommand*\tref}[1]{\cref{#1}}
1014 \renewcommand*\pref}[1]{\cpageref{#1}}
1015 \renewcommand*\Aref}[1]{\cref{#1}}
1016 \renewcommand*\Bref}[1]{\cref{#1}}
1017 \renewcommand*\Pref}[1]{\cref{#1}}

```



```

1018 \renewcommand*\Sref}[1]{\cref{#1}}
1019 \renewcommand*\figurerefname}{Figure}
1020 \renewcommand*\tablerefname}{Table}
1021 \renewcommand*\pagerefname}{page}
1022 \renewcommand*\bookrefname}{Book~}
1023 \renewcommand*\partrefname}{Part~}
1024 \renewcommand*\chapterrefname}{Chapter~}
1025 \renewcommand*\sectionrefname}{\S}
1026 \renewcommand*\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleref\nameref
1028 \renewcommand*\headnameref}{ }
1029 \renewcommand*\tocnameref}{ }
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*\currenttitle}{%
1034   \addtocounter{LWR@currenttitle}{1}%
1035   \label{currenttitle\arabic{LWR@currenttitle}}%
1036   \nameref{currenttitle\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*\theTitleReference}[2]{ }
1040 \renewcommand*\namerefon}{ }
1041 \renewcommand*\namerefoff}{ }

```

### § 695.17 **Back matter**

\@@wrindexhyp

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1042 \AtBeginDocument{
1043
1044 \def\@@wrindexhyp#1||\{\%
1045   \addtocounter{LWR@autoindex}{1}%           lwarp
1046   \ifshowindexmark\@showidx{#1}\fi
1047   \protected@write\@auxout{\%
1048     {\string\@@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1049     {\string\@@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}% lwarp
1050   \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
1051   \endgroup
1052   \@esphack}%

```

The label is assigned after the file write to avoid conflict with cleveref.

\@@wrspindexhyp

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1053 \def\@@wrspindexhyp#1||\{\%
1054   \addtocounter{LWR@autoindex}{1}%
1055   \ifshowindexmark\@showidx{#1}\fi
1056   \protected@write\@auxout{\%
1057     {\string\@@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1058     {\string\@@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1059   \label{LWRindex-\arabic{LWR@autoindex}}%
1060   \endgroup
1061   \@esphack}%
1062

```

```
1063 }% \AtBeginDocument
```

\@spindex

Patched to append \_html to the file:

```
1064 \renewcommand{\@spindex}[2]{%
1065   \ifundefined{#1@idxfile}%
1066   {\ifreportnoidxfile
1067     \@memwarn{Undefined index file #1}%
1068     \fi
1069     \begingroup
1070     \@sanitize
1071     \@nowrindex}%
1072   {\def\@idxfile{#1_html}%
1073     \def\@sptheid{#2}%
1074     \begingroup
1075     \@sanitize
1076     \@wrspindex}}
```

\@makeindex

Patched to use \_html filename and \BaseJobname:

```
1077 \catcode'\_ =12%
1078 \renewcommand*\@makeindex[1][\BaseJobname]{%
1079   \if@files
1080     \def\gindex{\@bsphack%
1081       \ifnextchar [ {\@index} {\@index[\BaseJobname]} }
1082     \def\specialindex{\@bsphack\@spindex}%
1083     \makememindexhook
1084     \expandafter\newwrite\csname #1@idxfile\endcsname
1085     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086     \typeout{Writing index file #1_html.idx }%
1087     \fi}
1088 \catcode'\_ =8%
```

\@printindex

Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```
1089 \catcode'\_ =12%
1090 \renewcommand{\@printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1091 \catcode'\_ =8%

1092 \DeclareDocumentCommand{\newblock}{}{}
1093 %
1094 \renewcommand*\showindexmarks{}
1095 \renewcommand*\hideindexmarks{}
1096
1097 \renewcommand*\xindyindex{}
```

## § 695.18 Miscellaneous

```
1098 \renewcommand*\changemarks{}
1099 \renewcommand*\nochangemarks{}
1100 \renewcommand*\added[1]{}
1101 \renewcommand*\deleted[1]{}
1102 \renewcommand*\changed[1]{}
1103
1104 \renewcommand*\showtrimsoff{}
1105 \renewcommand*\showtrimson{}
1106 \renewcommand*\trimXmarks{}
1107 \renewcommand*\trimLmarks{}
```

```

1108 \renewcommand*\trimFrame{}
1109 \renewcommand*\trimNone{}
1110 \renewcommand*\trimmarkscolor{}
1111 \renewcommand*\trimmarks{}
1112 \renewcommand*\tmarktl{}
1113 \renewcommand*\tmarktr{}
1114 \renewcommand*\tmarkbr{}
1115 \renewcommand*\tmarkbl{}
1116 \renewcommand*\tmarktm{}
1117 \renewcommand*\tmarkmr{}
1118 \renewcommand*\tmarkbm{}
1119 \renewcommand*\tmarkml{}
1120 \renewcommand*\trimmark{}
1121 \renewcommand*\quarkmarks{}
1122 \renewcommand*\registrationColour[1]{}
1123
1124 \renewcommand*\leavespergathering[1]{}
1125
1126 \renewcommand*\noprelistbreak{}
1127
1128 \renewcommand*\cleartorecto{}
1129 \renewcommand*\cleartoverso{}
1130
1131 \renewenvironment{vplace}[1][{}]{}
```

### § 695.19 **ccaption emulation**

```

1132 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator{#1}}
1133 \renewcommand*\captionnamefont[1]{}
1134 \renewcommand*\captiontitlefont[1]{}
1135 \renewcommand*\flushleft{}
1136 \renewcommand*\centerlastline{}
1137 \renewcommand*\captionstyle[2][{}]{
1138 \DeclareDocumentCommand\captionwidth}{m}{
1139 \renewcommand*\changecaptionwidth{}
1140 \renewcommand*\normalcaptionwidth{}
1141 \renewcommand*\hangcaption{}
1142 \renewcommand*\indentcaption[1]{}
1143 \renewcommand*\normalcaption{}
1144 \renewcommand\precaption[1]{}
1145 \renewcommand\postcaption[1]{}
1146 \renewcommand\midbicaption[1]{}
1147 \renewcommand\contcaption[1]{%
1148 % \ContinuedFloat%
1149 % \caption{#1}%
1150 \begin{LWR@figcaption}% later becomes \caption*
1151 \LWR@isolate{\@nameuse{\@captype name}}~%
1152 \thechapter.\the\value{\@captype}\CaptionSeparator\LWR@isolate{#1}%
1153 \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}
```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1159 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1160
```

```

1161 \renewcommand{\namedlegend}[2][]{%
1162   \begin{center}
1163     \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1164   \end{center}
1165   \@nameuse{flegtoc\@capttype}{#1}
1166 }

```

`\flegtable`, `\flegfigure`, `\flegtocable`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168   \renewcommand{#2}{\def\@capttype{#3}#1}}
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170   \renewcommand{#2}{\def\@capttype{#3}#1}}
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172   \providecommand{#2}{\def\@capttype{#3}#1}}
1173
1174 \renewcommand{\bitwonumcaption}[6][]{%
1175   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1176   \addtocounter{\@capttype}{-1}%
1177   \begingroup%
1178   \csdef{\@capttype name}{#4}%
1179   \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1180   \endgroup%
1181   \ifblank{#1}{\label{#1}}%
1182 }
1183
1184 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1185
1186 \renewcommand{\bicaption}[5][]{%
1187   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1188   \begin{LWR@figcaption}% later becomes \caption*
1189     \LWR@isolate{#4} % space
1190     \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1191   \end{LWR@figcaption}%
1192   \ifblank{#1}{\label{#1}}%
1193 }
1194
1195 \renewcommand{\bicontcaption}[3]{%
1196   \contcaption{#1}%
1197   \begingroup%
1198   \csdef{\@capttype name}{#2}%
1199   \contcaption{#3}%
1200   \endgroup%
1201 }

```

Only in `ccaption`, not in memoir:

```

1202 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1205 \renewcommand{\@memsubbody}{%
1206   \bgroup
1207   \let\label=\memsub@label
1208   \ifdonemaincaption\else
1209     \advance\csname c@\@capttype\endcsname\@e
1210   \fi

```

```

1211 % \refstepcounter{sub\@captype}\@contkeep%
1212 % \leavevmode          lwarp
1213 \@ifnextchar [%
1214   {\@memsubfig}%
1215   {\@memsubfig[\@empty]}}
1216
1217 \renewcommand{\@memcontsubbody}{%
1218   \bgroup
1219   \let\label=\memsub@label
1220   \@contset
1221   % \refstepcounter{sub\@captype}\@contkeep%
1222   % \leavevmode          lwarp
1223   \@ifnextchar [%
1224     {\@memsubfig}%
1225     {\@memsubfig[\@empty]}}
1226
1227
1228 \Long\def\@memsubfloat#1[#2][#3]#4{%
1229   \@tempcnta=\@ne
1230   \if@tightsubcap
1231     \if@minipage
1232       \@tempcnta=\z@
1233     \else
1234       \ifdim\lastskip=\z@
1235         \@tempcnta=\@ne
1236       \else
1237         \@tempcnta=\tw@
1238       \fi
1239     \fi
1240   \fi
1241   \if@contbotsub
1242     \def\subfig@top{\subfloattopskip}%
1243     \def\subfig@bottom{\subfloatbottomskip}%
1244   \else
1245     \def\subfig@top{\subfloatbottomskip}%
1246     \def\subfig@bottom{\subfloattopskip}%
1247   \fi
1248   \setbox\@tempboxa \hbox{#4}%
1249   \@tempdima=\wd\@tempboxa
1250   \vbox
1251   \bgroup%
1252   \mem@step@subcounter%
1253   \vbox
1254   \LWR@stoppars%
1255   \minipagefullwidth%          lwarp
1256   \begin{minipage}{\linewidth}% lwarp
1257   \bgroup
1258     \ifcase\@tempcnta
1259       \@minipagefalse
1260     \or
1261       \vspace{\subfig@top}
1262     \or
1263       \ifdim \lastskip=\z@ \else
1264         \@tempkipb\subfig@top\@xaddvskip
1265       \fi
1266     \fi
1267   \if@contbotsub
1268     #4 \box\@tempboxa
1269   \egroup
1270   \ifx \@empty#3\relax \else

```

```

1271 %         \vskip\subfloatcapskip
1272         \@memsubcaption{#1}{#2}{#3}%
1273         \fi
1274     \else
1275         \ifx \@empty#3\relax \else
1276         \@memsubcaption{#1}{#2}{#3}%
1277 %         \vskip\subfloatcapskip
1278 %         \vskip\subfloatcaptopadj
1279         \fi\egroup
1280         #4% \box\@tempboxa
1281     \fi
1282 %     \vspace{\subfig@bottom}
1283     \end{minipage}%           lwarp
1284     \LWR@startpars%         lwarp
1285 \egroup
1286 \egroup
1287 }

```

## § 695.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 587 **lwarp-common-multimedia.sty**

§ 696 Package **common-multimedia**

lwarp-common-multimedia (*Pkg*) Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each address=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz` Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11   \setlength{\LWR@multimedia@maxdimension}{%
12     \maxof%
13       {\linewidth}%
14       {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15   }%
16   \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17   \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18     width:%
19     \LWR@printpercentlength%
20       {\LWR@multimedia@width}%
21       {\LWR@multimedia@maxdimension}vmin ; % space
22   }{%
23   \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24     height:%
25     \LWR@printpercentlength%
26       {\LWR@multimedia@height}%
27       {\LWR@multimedia@maxdimension}vmin ; % space
28   }{%
29   }

```

`\LWR@multimedia@fileAV` `{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{[\LWR@parsedfilename]}%

```

The container `<div>` is sized as desired.

```

33 \ifstrequal{#3}{audio}{%

```

```

34     \begin{BlockClass}{AVviewport}
35   }{%
36     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37   }

```

Paragraph tags are unnecessary for the A/v tags.

```
38   \LWR@stoppars
```

The A/v element is 100% of the container.

```

39   \LWR@htmltag{%
40     #3\ % space
41     \ifstrequal{#3}{audio}{}{%
42       width=\textquotedbl{}100%\textquotedbl\ % space
43       height=\textquotedbl{}100%\textquotedbl\ % space
44     }%
45     controls%
46   }\LWR@orignewline

```

The file source and type:

```

47   \LWR@htmltag{%
48     source % space
49     src=\textquotedbl%
50     \LWR@parsedfilename\unskip\textquotedbl\ % space
51     type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52   \LWR@startpars
53   \LWR@href{\LWR@parsedfilename}{#1}
54   \LWR@stoppars

```

Finish.

```

55   \LWR@htmltag{/#3}\LWR@orignewline
56   \end{BlockClass}
57 }{%
58   \PackageError{lwarp-common-multimedia}
59     {File '#2' not found}
60     {Perhaps an incorrect path?}
61 }%
62 }

```

`\LWR@multimedia@httpAV`

`{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```

64   \ifstrequal{#3}{audio}{%
65     \begin{BlockClass}{AVviewport}
66   }{%
67     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68   }

```

Paragraph tags are unnecessary for the A/v tags.

```
69   \LWR@stoppars
```

The A/v element is 100% of the container.

```

70   \LWR@htmltag{%
71     #3\ % space

```



```

72     \ifstrequal{#3}{audio}{}{%
73         width=\textquotedbl{}100%\textquotedbl\ % space
74         height=\textquotedbl{}100%\textquotedbl\ controls%
75     }%
76 } \LWR@orignewline

```

The file source and type:

```

77     \LWR@htmltag{%
78         source % space
79         src=\textquotedbl#2\textquotedbl\ % space
80         type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81     \LWR@startpars
82     \LWR@href{#2}{#1}
83     \LWR@stoppars

```

Finish.

```

84     \LWR@htmltag{/#3}\LWR@orignewline
85     \end{BlockClass}
86 }

```

\LWR@multimedia@AV

{<poster text>} {<filename>} {<audio/video>} {<mimetype>}

Creates an audio or video from a file or a URL.

```

87 \newcommand*\LWR@multimedia@AV}[4]{%
88     \IfBeginWith{#2}{http}%
89         {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90         {%
91             \IfBeginWith{#2}{HTTP}%
92                 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93                 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94         }%
95 }

```

\LWR@multimedia@embed

{<poster text>} {<URL or filename>} {<mime type>}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*\LWR@multimedia@embed}[3]{%
97     \begin{BlockClass}[width:100%\{AVviewport}]%
98     \LWR@stoppars
99     \LWR@htmltag{%
100         embed % space
101         \ifblank{#3}{}{type=\textquotedbl#3\textquotedbl\ }%
102         style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103         src=\textquotedbl#2\textquotedbl\ % space
104     }%
105     \LWR@startpars
106     \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of

\LWR@multimedia@percenterror \LWR@multimedia@.

```

108 \newcommand*\LWR@multimedia@percenterror}{%
109     \PackageError{lwarp-media9}
110     {%

```

```

111         Do not use a percent comment between\MessageBreak
112         \protect\includemedia\space arguments%
113     }
114     {%
115         Percent is changed to a regular character\MessageBreak
116         to allow its use inside a URL.%
117     }
118 }

```

\LWR@multimediab

[<options>] {<poster text>} {<filename>}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*{\LWR@multimediab}[3][[]]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120     \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121     \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122     \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123     \LWR@stoppars%
```

Record the desired size.

```

124     \setlength{\LWR@multimedia@width}{0pt}%
125     \setlength{\LWR@multimedia@height}{0pt}%
126     \setkeys*{\LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127     \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128     \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129     \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130     \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131     \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132     \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133     \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134     \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135         \LWR@href{#3}{#2}% unknown format
136     }}}}]}%

```

Paragraph handling:

```

137     \LWR@startpars%
138     \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*{\LWR@multimedia}{%
141     \begingroup%
142     \LWR@linkmediacatcodes%
143     \LWR@multimediab%
144 }

```

File 588 **lwarp-common-mathjax-letters.sty**

§ 697 Package **common-mathjax-letters**

lwarp-common-mathjax-letters (Pkg) Common code used by a number of packages to generate Greek math characters for MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {\<2: capitalize name?\>} {\<3: prefix?\>} {\<4: postfix?\>} {\<5: name?\>} {\<6: unicode?\>}  
Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5   \IfBooleanTF{#2}%
6     {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7     {\edef\LWR@tempone{#5}}%
8   \xdef\LWR@customizedMathJax{%
9     \LWR@customizedMathJax%
10    \LWRbackslash(%
11    \LWRbackslash def\LWRbackslash%
12    #3% prefix
13    \LWR@tempone%name
14    #4% postfix
15    \LWRleftbrace%
16    }%
17    \IfBooleanTF{#1}{%
18      \xdef\LWR@customizedMathJax{%
19        \LWR@customizedMathJax%
20        \LWRbackslash mathit\LWRleftbrace%
21        \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22        \LWRrightbrace%
23      }%
24    }{%
25      \xdef\LWR@customizedMathJax{%
26        \LWR@customizedMathJax%
27        \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28      }%
29    }%
30    \xdef\LWR@customizedMathJax{%
31      \LWR@customizedMathJax%
32      \LWRrightbrace\LWRbackslash)\par%
33    }%
34 }

```

\* {\<2: prefix?\>} {\<3: postfix?\>}

\LWR@mathjax@addgreek@l@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}

```

```

37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}

```

```

90 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}

```

```

136 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D746}
186 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D747}

```

```

189 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

$\backslash$ LWR@mathjax@addgreek@u@bfit Star to capitalize the macro names.

Adds  $\backslash$ CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }

```

$\backslash$ LWR@mathjax@addgreek@u@bfup is not needed.

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

$\backslash$ LWR@mathjax@addgreek@u@bfup Star to capitalize the macro names.

Adds  $\backslash$ CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}

```

```

233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

*{\prefix}*

`\LWR@mathjax@addlatin@u@bfit` Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254   \LWR@mathjax@addletter{\BooleanFalse}{#1}{A}{1D468}
255   \LWR@mathjax@addletter{\BooleanFalse}{#1}{B}{1D469}
256   \LWR@mathjax@addletter{\BooleanFalse}{#1}{C}{1D46A}
257   \LWR@mathjax@addletter{\BooleanFalse}{#1}{D}{1D46B}
258   \LWR@mathjax@addletter{\BooleanFalse}{#1}{E}{1D46C}
259   \LWR@mathjax@addletter{\BooleanFalse}{#1}{F}{1D46D}
260   \LWR@mathjax@addletter{\BooleanFalse}{#1}{G}{1D46E}
261   \LWR@mathjax@addletter{\BooleanFalse}{#1}{H}{1D46F}
262   \LWR@mathjax@addletter{\BooleanFalse}{#1}{I}{1D470}
263   \LWR@mathjax@addletter{\BooleanFalse}{#1}{J}{1D471}
264   \LWR@mathjax@addletter{\BooleanFalse}{#1}{K}{1D472}
265   \LWR@mathjax@addletter{\BooleanFalse}{#1}{L}{1D473}
266   \LWR@mathjax@addletter{\BooleanFalse}{#1}{M}{1D474}
267   \LWR@mathjax@addletter{\BooleanFalse}{#1}{N}{1D475}
268   \LWR@mathjax@addletter{\BooleanFalse}{#1}{O}{1D476}
269   \LWR@mathjax@addletter{\BooleanFalse}{#1}{P}{1D477}
270   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Q}{1D478}
271   \LWR@mathjax@addletter{\BooleanFalse}{#1}{R}{1D479}
272   \LWR@mathjax@addletter{\BooleanFalse}{#1}{S}{1D47A}
273   \LWR@mathjax@addletter{\BooleanFalse}{#1}{T}{1D47B}
274   \LWR@mathjax@addletter{\BooleanFalse}{#1}{U}{1D47C}
275   \LWR@mathjax@addletter{\BooleanFalse}{#1}{V}{1D47D}
276   \LWR@mathjax@addletter{\BooleanFalse}{#1}{W}{1D47E}
277   \LWR@mathjax@addletter{\BooleanFalse}{#1}{X}{1D47F}
278   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Y}{1D480}
279   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

*{\prefix}*

`\LWR@mathjax@addlatin@l@bfit` Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{

```



```

282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

---

File 589 **lwarp-common-mathjax-newpctxmath.sty**

§ 698 Package **common-mathjax-newpctxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

lwarp-common-mathjax-newpctxmath Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

*(Pkg)*

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rbracket\rBrack}

```

```

13
14 \CustomizeMathJax{\let\smlbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\} }
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\! \unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35   \stackrel{\unicode{x2218}}{\overgroup{#1}}}%
36 }}
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wide0arc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvstar\overrightarrow}}
41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
47 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
48 \CustomizeMathJax{\newcommand{\smallloiiintsl}{\mathop{\unicode{x2230}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallvarointclockwisel}{%
50   \mathop{\unicode{x2232}}\limits%
51 }}
52 \CustomizeMathJax{\newcommand{\smallointctrlockwisel}{%
53   \mathop{\unicode{x2233}}\limits%
54 }}
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
64 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
65 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\unicode{x2230}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
67   \mathop{\unicode{x2232}}\limits%
68 }}
69 \CustomizeMathJax{\newcommand{\smallointctrlockwiseup}{%
70   \mathop{\unicode{x2233}}\limits%
71 }}

```

```

72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiiintsl}{\mathop{\unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwisel}{\mathop{\unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}
101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{%
108   \mathop{\unicode{x2232}}\limits%
109 }}
110 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{%
111   \mathop{\unicode{x2233}}\limits%
112 }}
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
120 %

121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %

125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}

```

```

129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
137 %

138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143   \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}%
144 }}
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146   \mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}%
147 }}
148 %

149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
156 %
157
158 \CustomizeMathJax{\newcommand{\nprecsim}{%
159   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}%
160 }}
161 \CustomizeMathJax{\newcommand{\nsucsim}{%
162   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}%
163 }}
164 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
165 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
166 %

167 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
168 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
169 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
170 \CustomizeMathJax{\let\notowns\notni}
171 %
172 \CustomizeMathJax{\newcommand{\nlessapprox}{%
173   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}%
174 }}
175 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
176   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}%
177 }}
178 %
179 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
180   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}%
181 }}

```

```

182 \CustomizeMathJax{\newcommand{\nsuccurlyeq}{%
183   \mathrel{\LWOverlaysymbols{/}{\unicode{x0227D}}}%
184 }}
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpeq}{%
188   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224F}}}%
189 }}
190 \CustomizeMathJax{\newcommand{\nBumpeq}{%
191   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224E}}}%
192 }}
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195   \mathrel{\LWOverlaysymbols{/}{\unicode{x0223D}}}%
196 }}
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198   \mathrel{\LWOverlaysymbols{/}{\unicode{x022CD}}}%
199 }}
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226A}}}%
206 }}
207 \CustomizeMathJax{\newcommand{\ngg}{%
208   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226B}}}%
209 }}
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211   \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%
212 }}
213 \CustomizeMathJax{\newcommand{\napproxeq}{%
214   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}%
215 }}
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}%
218 }}
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}%
221 }}
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}%
224 }}
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}%
227 }}
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}%
232 }}
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}%
235 }}
236 \CustomizeMathJax{\newcommand{\nsubseteqq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nsupseteqq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}

```

```

242 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
243 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
244 %
245 \CustomizeMathJax{\newcommand{\lvec}[1]{%
246   \mathord{\overset{\unicode{x02190}}{#1}}}%
247 }}
248 \CustomizeMathJax{\newcommand{\lrvec}[1]{%
249   \mathord{\overset{\unicode{x2194}}{#1}}}%
250 }}
251 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{%
252   \mathord{\overset{\unicode{x021C0}}{#1}}}%
253 }}
254 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{%
255   \mathord{\overset{\unicode{x021BC}}{#1}}}%
256 }}
257 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{%
258   \mathord{\overset{\unicode{x0294E}}{#1}}}%
259 }}
260 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
261 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
262 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
263 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
264 \CustomizeMathJax{\newcommand{\tildedtilde}[1]{\mathord{\overset{\approx}{#1}}}}
265 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
266 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
267 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
268 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{#1}}}}}
269
270 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
271 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
272 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
273 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
274 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
275 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
276 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
277
278 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

284 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
285 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
287
288 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
290 \CustomizeMathJax{\newcommand{\nplus}{%
291   \mathrel{\LWROverlaysymbols+}{\unicode{x02229}}}%
292 }}
293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294   \mathrel{\LWROverlaysymbols/}{\unicode{x0228F}}}%
295 }}
296 \CustomizeMathJax{\newcommand{\nsqsupset}{%

```

```

297 \mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}%
298 }}
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
304 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
307
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
311 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
312
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
319
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
321
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%
323 \mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}%
324 }}
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%
326 \mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}%
327 }}
328
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
331
332 \CustomizeMathJax{\newcommand{\varg}{g}}
333 \CustomizeMathJax{\newcommand{\vary}{y}}
334 \CustomizeMathJax{\newcommand{\varv}{v}}
335 \CustomizeMathJax{\newcommand{\varw}{w}}
336
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
341
342 \CustomizeMathJax{\newcommand{\uppartial}{%
343 \mathord{\unicode{x02202}}}%
344 }}% not upright
345
346 \CustomizeMathJax{\let\varmathbb\mathbb}
347 \CustomizeMathJax{\let\vmathbb\mathbb}
348 \CustomizeMathJax{\let\vvmathbb\mathbb}
349
350 \CustomizeMathJax{\let\smallprod\prod}
351 \CustomizeMathJax{\let\smallsum\sum}
352 \CustomizeMathJax{\let\smallcoprod\coprod}
353
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
355 \CustomizeMathJax{\let\textsquare\openbox}

```

```

356 \CustomizeMathJax{\let\varepsilon\emptyset}
357 %
358 % for newpxmath:
359 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
360 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
361
362 \end{warpMathJax}

```

---

File 590 **lwarp-common-mathjax-nonunicode.sty**

§ 699 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

lwarp-common-mathjax-nonunicode Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-  
(Pkg) JAX. These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpctxmath.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{%
24   \mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}%
25 }}
26 \CustomizeMathJax{\newcommand{\boxleft}{%
27   \mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}%
28 }}
29 \CustomizeMathJax{\newcommand{\boxdotright}{%
30   \mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}%
31 }}
32 \CustomizeMathJax{\newcommand{\boxdotleft}{%
33   \mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}%
34 }}
35

```



```

36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37   \mathrel{\unicode{x025C7}\!\unicode{x02192}}%
38 }}
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40   \mathrel{\unicode{x02190}\!\unicode{x025C7}}%
41 }}
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43   \mathrel{\unicode{x027D0}\!\unicode{x02192}}%
44 }}
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46   \mathrel{\unicode{x02190}\!\unicode{x027D0}}%
47 }}
48
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50   \mathrel{\unicode{x025A1}\!\unicode{x021D2}}%
51 }}
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53   \mathrel{\unicode{x021D0}\!\unicode{x025A1}}%
54 }}
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56   \mathrel{\unicode{x022A1}\!\unicode{x021D2}}%
57 }}
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59   \mathrel{\unicode{x021D0}\!\unicode{x022A1}}%
60 }}
61
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63   \mathrel{\unicode{x025C7}\!\unicode{x021D2}}%
64 }}
65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66   \mathrel{\unicode{x021D0}\!\unicode{x025C7}}%
67 }}
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69   \mathrel{\unicode{x027D0}\!\unicode{x021D2}}%
70 }}
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72   \mathrel{\unicode{x021D0}\!\unicode{x027D0}}%
73 }}
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
75
76 \CustomizeMathJax{\newcommand{\circleright}{%
77   \mathrel{\unicode{x025CB}\!\unicode{x02192}}%
78 }}
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80   \mathrel{\unicode{x02190}\!\unicode{x025CB}}%
81 }}
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83   \mathrel{\unicode{x02299}\!\unicode{x02192}}%
84 }}
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86   \mathrel{\unicode{x02190}\!\unicode{x02299}}%
87 }}
88 \CustomizeMathJax{\let\circleddotright\circledotright}
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
90
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%

```

```

96   \mathrel{\!\bullet\!-\!\bullet\!}%
97 }}
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102   \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{|}}}%
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105   \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{|}}}%
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108   \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{|}}}%
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111   \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{|}}}%
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}%
116 }}
117 \CustomizeMathJax{\let\bigcapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}%
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124
125 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
126   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}%
127 }}
128 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
132   \mathrel{\unicode{x0005C}\!\!\unicode{x0005C}}}%
133 }}
134
135 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\unicode{x2237}}}}
136 \CustomizeMathJax{\let\eqqcolon\Eqqcolon}% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\!\unicode{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143   \mathrel{\unicode{x2237}\!\approx}}%
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148   \mathrel{\unicode{x0297D}}}%
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151   \mathrel{\unicode{x0297C}}}%
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154   \mathrel{\unicode{x0297C}\!\!\unicode{x0297D}}}%
155 }}% left/right fish tails

```

```

156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
159 }}
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
162 }}
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166   \mathrel{\unicode{x2AA4}}}%
167 }}% overlapping ><
168 \CustomizeMathJax{\newcommand{\openTimes}{%
169   \mathrel{\unicode{x2AA4}}}%
170 }}% overlapping ><
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175   \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\lambda}}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181   \mathbin{\unicode{x02240}\!\!\unicode{x02240}}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftarrow}{%
185   \mathrel{\unicode{x021E0}\!\!\unicode{x021E2}}}%
186 }}
187 \CustomizeMathJax{\let\lefttrighthdasharrow\dashleftarrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

---

File 591 **lwarp-common-mathjax-overlaysymbols.sty**

§ 700 Package **common-mathjax-overlaysymbols**

lwarp-common-mathjax-overlaysymbols Common code used by a number of packages to overlay two symbols for MATHJAX.

(Pkg)

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWROverlaysymbols

{\symbol} {\symbol}

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWROverlaysymbols}[2]{%
5   \mathord{%
6     \smash{%
7       \mathop{#2\strut}%
8       \limits^{\smash{\lower3ex{#1}}}%
9     }%
10   \strut%
11 }%

```

```
12 }}  
13  
14 \end{warpMathJax}
```

# Change History

## § 701 Chg Hist

For the most recent changes, see page [1334](#).

v0.10	Added. . . . .	805
General: 2016/03/08 Initial version	1	
v0.11	Ampersand (&): Fixed handling when passed as an argument.	441
General: 2016/03/11 . . . . .	1	
Added section: Operating-System portability. . . . .	227	
Added section: Selecting the operating system. . . . .	116	
Test Suite: MS-WINDOWS in README.txt . . . . .	1	
Test Suite: limages and index in README.txt . . . . .	1	
v0.12	Docs: Added warning icons for items needing special attention. . . . .	202
General: 2016/03/14 . . . . .	1	
Global: Uses <code>\p@(type)</code> in float captions. . . . .	1	
Test Suite: Sub-figures . . . . .	1	
<code>\LWR@newhtmlfile</code> : Bugfix: toc with numbered files. . . . .	386	
v0.13	Docs: Clarify print/HTML output. . . . .	116
General: 2016/03/24 . . . . .	1	
Fix dollar-redefined bug for newer package. . . . .	1167	
Removed package: subfig . . . . .	1	
Test Suite: Ordinals, Subcaption . . . . .	1	
<code>\CaptionSeparator</code> : Fix for newer babel package. . . . .	511	
<code>\LWR@LwarpStart</code> : <code>\up</code> and <code>\fup</code> . . . . .	405	
v0.14	Docs: Moved the supported features table to the introduction. . . . .	67
General: 2016/03/31 . . . . .	1	
floatrow: Added. . . . .	801	
Docs: Commands for a successful HTML conversion. . . . .	120	
Docs: Commands into a warpprint environment. . . . .	117	
Docs: Newclude limitations. . . . .	172	
Docs: Table: Cross-referencing data structures. . . . .	494	
Docs: Table: Float data structures. . . . .	507	
Docs: Trademarks section. . . . .	199	
Docs: Troubleshooting cross-references. . . . .	194	
Test Suite: Assigned cleveref name for Test Float. . . . .	1	
Test Suite: Floatrow . . . . .	1	
<code>\LWR@htmlsectionfilename</code> : Fix: Links to home page. . . . .	340	
v0.15	Files: <code>lwarp_formal.css</code> added. . . . .	1
General: 2016/04/06 . . . . .	1	
Test Suite: test_suite_formal.css file added. . . . .	1	
v0.16	Fix: steps counter . . . . .	805
General: 2016/04/11 . . . . .	1	
<code>\titlingpage</code> : Improved print-output spacing. . . . .	413	
<code>xfrac</code> : Adjusted for the use of any font: . . . . .	1231	
Added XeLaTeX, LuaLaTeX support. . . . .	203	
Docs: Font and UTF-8 support. . . . .	101	
Docs: Moved location of <code>\usepackage{lwarp}</code> . . . . .	103	
Docs: Text not converting. . . . .	194	
Lwarp no longer selects fonts. . . . .	101, 238	
Removed package: suffix . . . . .	1	
Test Suite: Improved titlingpage. . . . .	413	
Test Suite: Lwarp no longer selects fonts. . . . .	1	
Test Suite: Supports XeLaTeX, LuaLaTeX. . . . .	1	
v0.17	Test Suite: <code>test_suite_formal.css</code> introduction. . . . .	67
General: 2016/04/14 . . . . .	1	
<code>mdframed</code> : Added. . . . .	935	
Test Suite: Fix: Print-version front-matter page numbers. . . . .	1	
Test Suite: Mdframed . . . . .	1	
<code>\LWR@htmlsectionfilename</code> : Fix: Links when entire doc is one HTML page. . . . .	340	
v0.18	Test Suite: <code>test_suite_formal.css</code> file added. . . . .	1
General: 2016/05/19 . . . . .	1	
graphics: Add: svg file extension. . . . .	837	
graphics: Fix: <code>\linewidth</code> , <code>\textwidth</code> , <code>\textheight</code> inside a minipage. . . . .	837	

graphics: Improved HTML output		\HomeHTMLFilename: Docs: Escape	
linebreaks. . . . .	837	filename underscores. . . . .	339
graphics: em, ex, %, px		\hspace: Fix: \hspace length	
dimensions preserved. . . . .	837	computations. . . . .	608
File: lwarp.css: Improved toc		\HTMLFilename: Docs: Escape	
outline display. . . . .	1	filename underscores. . . . .	339
Files: lwarp.css and		\LateximageFontSizeName: Add:	
lwarp_formal.css: Improved		User-adjustable	
responsive design. . . . .	1	math/lateximage font size. . .	563
Microtype disabled during HTML		\LWR@doequation: MATHJAX	
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<code>\LWR@subsingledollar</code> : Fix: Use <code>lateximage</code> even if <code>MATHJAX</code> .	545	<code>alignat</code> : <code>amsmath</code> : Fix: Added.	646
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<code>\LWR@subsingledollarsvg</code> : MD5 hash avoids duplicate <code>svg math</code> .	544	<code>\displaymathother</code> : Processing for complicated display math.	558
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<code>\newline</code> : Robustify macros.	606	<code>lateximage</code> : Added additional hashing option.	566
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<code>lwrap_one_limage.txt</code> : <code>pdfcairo -noshrink</code> added.	309	<code>\LWR@doequation</code> : Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	555
<code>afterpackage</code> : No longer required.	241	<code>\LWR@doubledollar</code> : Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	548
<code>chemfig</code> : Added.	702	<code>LWR@equationother</code> : Processing for complicated display math.	551
<code>chemformula</code> : Added.	704	<code>\LWR@findcurrenttextcolor</code> : Added <code>\LWR@findcurrenttextcolor</code> when no <code>xcolor</code> .	604
<code>chemgreek</code> : Added.	709	<code>\LWR@HTMLsanitizeexpanded</code> : Fix: Escapes double quotes.	381
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<code>chemnum</code> : Added.	729	<code>\LWR@newautoidanchor</code> : Fix: No autoid is inside a <code>lateximage</code> .	510
<code>epstopdf-base</code> : Added.	768	<code>\LWR@singledollarmeasure</code> : Fix: <code>lateximage</code> inside <code>AMS</code> <code>\text</code> .	541
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<code>listings</code> : Forces cleared options.	898	<code>Typeset</code> <code>svg math</code> only once during measurement.	541
<code>ltxgrid</code> : Added.	909	<code>\LWR@subHTMLsanitize</code> : Fix: Escapes double quotes.	380
<code>mhchem</code> : Added.	948	<code>\LWR@subsingledollar</code> : Fix: <code>\ensuredmath</code> inside <code>svg image</code> .	546
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\LRW@doequation: Fix: equation* now based on equation instead of displaymath. . . . .	555	gridset: Added. . . . .	843
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\LWR@writeconf: Compilation commands now preassigned by <i>lwarpmk</i> instead of being computed by <i>lwarpmk</i> . . . . .	269	psfrag: Added. . . . .	1033
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		supertabular: Fix for caption w/o opt arg. . . . .	1136
		thinsp: Added. . . . .	1161
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\LWR@addcompilecmd: Removed		css, honors loose, tight. . .	1202
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\LWR@closetabledatcell: Fix: Par		xexchangebar: Added. . . . .	1228
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# General Index

This is an index of instructions and concepts. Look here when wondering how to do something, and check the Troubleshooting Index when something goes wrong.

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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 202 are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code.

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