Marking up differences between latex files with *latexdiff*

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Preamble

latexdiff is a Perl script, which compares two latex files and marks up significant differences between them. Various options are available for visual markup using standard latex packages such as *color.sty*. Changes not directly affecting visible text, for example in formatting commands, are still marked in the latex source. A rudimentary revision facility is provided by another Perl script, *latexrevise*, which accepts or rejects all changes. Manual editing of the difference file can be used to override this default behaviour and accept or reject selected changes only.
There is no explicit support for annotations as these are trivial to implement. For example, I include the following command definition in the preamble

```
\newcommand{\remark}[1]{{ \bf [ \footnotesize #1 ]}}
```

and mark up annotations as follows

```
... The roadrunner is the fastest running bird  \remark{Check this
again with a zoologist!}. The most famous roadrunner ...
```

Alternatively, instead of a command like `\remark` in the example just given, an equivalent annotation environment could be defined. *latexrevise* can remove such comments or environments from the text body.
On the following pages you find the *man* pages for *latexdiff* and *latexrevise* and a simple example.

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1 NAME

latexdiff - determine and markup differences between two latex files

2 SYNOPSIS

latexdiff [**OPTIONS**] *old.tex new.tex* > *diff.tex*

3 DESCRIPTION

Briefly, *latexdiff* is a utility program to aid in the management of revisions of latex documents. It compares two valid latex files, here called `old.tex` and `new.tex`, finds significant differences between them (i.e., ignoring the number of white spaces and position of line breaks), and adds special commands to highlight the differences. Where visual highlighting is not possible, e.g. for changes in the formatting, the differences are nevertheless marked up in the source. Note that old.tex and new.tex need to be real files (not pipes or similar) as they are opened twice (unless `--encoding` option is used)
The program treats the preamble differently from the main document. Differences between the preambles are found using line-based differencing (similarly to the Unix diff command, but ignoring white spaces). A comment, "`%DIF >`" is appended to each added line, i.e. a line present in `new.tex` but not in `old.tex`. Discarded lines are deactivated by prepending "`%DIF <`". Changed blocks are preceded by comment lines giving information about line numbers in the original files. Where there are insignificant differences, the resulting file `diff.tex` will be similar to `new.tex`. At the end of the preamble, the definitions for *latexdiff* markup commands are inserted. In differencing the main body of the text, *latexdiff* attempts to satisfy the following guidelines (in order of priority):

1. If both `old.tex` and `new.tex` are valid LaTeX, then the resulting `diff.tex` should also be valid LateX. (NB If a few plain TeX commands are used within `old.tex` or `new.tex` then `diff.tex` is not guaranteed to work but usually will).

2. Significant differences are determined on the level of individual words. All significant differences, including differences between comments should be clearly marked in the resulting source code `diff.tex`.

3. If a changed passage contains text or text-producing commands, then running `diff.tex` through LateX should produce output where added and discarded passages are highlighted.

4. Where there are insignificant differences, e.g. in the positioning of line breaks, `diff.tex` should follow the formatting of `new.tex`

For differencing the same algorithm as *diff* is used but words instead of lines are compared. An attempt is made to recognize blocks which are completely changed such that they can be marked up as a unit. Comments are differenced line by line but the number of spaces within comments is ignored. Commands including all their arguments are generally compared as one unit, i.e., no mark-up is inserted into the arguments of commands. However, for a selected number of commands (for example, `\caption` and all sectioning commands) the last argument is known to be text. This text is split into words and differenced just as ordinary text (use options to show and change the list of text commands, see below). As the algorithm has no detailed knowledge of LaTeX, it assumes all pairs of curly braces immediately following a command (i.e. a sequence of letters beginning with a backslash) are arguments for that command. As a restriction to condition 1 above it is thus necessary to surround all arguments with curly braces, and to not insert extraneous spaces. For example, write

```
\section{\textem{This is an emphasized section title}}
```

and not

```
\section {\textem{This is an emphasized section title}}
```

or

```
\section\textem{This is an emphasized section title}
```

even though all varieties are the same to LaTeX (but see **--allow-spaces** option which allows the second variety).
For environments whose content does not conform to standard LaTeX or where graphical markup does not make sense all markup commands can be removed by setting the PICTUREENV configuration variable, set by default to `picture` and `DIFnomarkup` environments; see **--config** option). The latter environment (`DIFnomarkup`) can be used to protect parts of the latex file where the markup results in illegal markup. You have to surround the offending passage in both the old and new file by `\begin{DIFnomarkup}` and `\end{DIFnomarkup}`. You must define the environment in the preambles of both old and new documents. I prefer to define it as a null-environment,
`\newenvironment{DIFnomarkup}{}{}`
but the choice is yours. Any markup within the environment will be removed, and generally everything within the environment will just be taken from the new file.
It is also possible to difference files which do not have a preamble. In this case, the file is processed in the main document mode, but the definitions of the markup commands are not inserted.
All markup commands inserted by *latexdiff* begin with "`\DIF`". Added blocks containing words, commands or comments which are in `new.tex` but not in `old.tex` are marked by `\DIFaddbegin` and `\DIFaddend`. Discarded blocks are marked by `\DIFdelbegin` and `\DIFdelend`. Within added blocks all text is

highlighted with \DIFadd like this: \DIFadd{Added text block} Selected 'safe' commands can be contained in these text blocks as well (use options to show and change the list of safe commands, see below). All other commands as well as braces "{" and "}" are never put within the scope of \DIFadd. Added comments are marked by prepending "%DIF > ".
Within deleted blocks text is highlighted with \DIFdel. Deleted comments are marked by prepending "%DIF < ". Non-safe command and curly braces within deleted blocks are commented out with "%DIFDELCMD < ".

4 OPTIONS

Preamble

The following options determine the visual markup style by adding the appropriate command definitions to the preamble. See the end of this section for a description of available styles.

--type=markupstyle or -t markupstyle

Add code to preamble for selected markup style. This option defines \DIFadd and \DIFdel commands. Available styles:

UNDERLINE CTRADITIONAL TRADITIONAL CFONT FONTSTRIKE INVISIBLE CHANGEBAR CCHANGEBAR CULINECHBAR CFONTCHBAR BOLD PDFCOMMENT LUAUNDERLINE

[Default: UNDERLINE]

--subtype=markstyle or -s markstyle

Add code to preamble for selected style for bracketing commands (e.g. to mark changes in margin). This option defines \DIFaddbegin, \DIFaddend, \DIFdelbegin and \DIFdelend commands. Available styles: SAFE MARGIN COLOR DVIPSCOL ZLABEL ONLYCHANGEDPAGE (LABEL)*

[Default: SAFE] * Subtype LABEL is deprecated

--floattype=markstyle or -f markstyle

Add code to preamble for selected style which replace standard marking and markup commands within floats (e.g., marginal remarks cause an error within floats so marginal marking can be disabled thus). This option defines all \DIF...FL commands. Available styles: FLOATSAFE TRADITIONALSAFE IDENTICAL

[Default: FLOATSAFE]

--encoding=enc or -e enc

Specify encoding of old.tex and new.tex. Typical encodings are ascii, utf8, latin1, latin9. A list of available encodings can be obtained by executing

perl -MEncode -e 'print join ("\n",Encode-encodings(":all")) ;' >

If this option is used, then old.tex, new.tex are only opened once. [Default encoding is utf8 unless the first few lines of the preamble contain an invocation `\usepackage[..]{inputenc}` in which case the encoding chosen by this command is asssumed. Note that ASCII (standard latex) is a subset of utf8]

--preamble=file or -p file

Insert file at end of preamble instead of generating preamble. The preamble must define the following commands `\DIFaddbegin`, `\DIFaddend`, `\DIFadd{..}`, `\DIFdelbegin`,`\DIFdelend`,`\DIFdel{..}`, and varieties for use within floats `\DIFaddbeginFL`, `\DIFaddendFL`, `\DIFaddFL{..}`, `\DIFdelbeginFL`, `\DIFdelendFL`, `\DIFdelFL{..}` (If this option is set **-t**, **-s**, and **-f** options are ignored.)

--packages=pkg1,pkg2,..

Tell latexdiff that .tex file is processed with the packages in list loaded. This is normally not necessary if the .tex file includes the preamble, as the preamble is automatically scanned for `\usepackage` commands. Use of the **--packages** option disables automatic scanning, so if for any reason package specific parsing needs to be switched off, use **--packages=none**. The following packages trigger special behaviour:

`endfloat`

Ensure that `\begin{figure}` and `\end{figure}` always appear by themselves on a line.

`hyperref`

Change name of `\DIFadd` and `\DIFdel` commands to `\DIFaddtex` and `\DIFdeltex` and define new `\DIFadd` and `\DIFdel` commands, which provide a wrapper for these commands, using them for the text but not for the link defining command (where any markup would cause errors).

`apacite`, `biblatex`

Redefine the commands recognised as citation commands.

`siunitx`

Treat `\SI` as equivalent to citation commands (i.e. protect with `\mbox` if markup style uses ulem package.

`cleveref`

Treat `\cref`,`\Cref`, etc as equivalent to citation commands (i.e. protect with `\mbox` if markup style uses ulem package.

`glossaries`

Define most of the glossaries commands as safe, protecting them with \mbox'es where needed

`mhchem`

Treat `\ce` as a safe command, i.e. it will be highlighted (note that `\cee` will not be highlighted in equations as this leads to processing errors)

`chemformula` **or** `chemmacros`

Treat `\ch` as a safe command outside equations, i.e. it will be highlighted (note that `\ch` will not be highlighted in equations as this leads to processing errors)

[Default: scan the preamble for `\usepackage` commands to determine loaded packages.]

Configuration

--exclude-safecmd=exclude-file or -A exclude-file or --exclude-safecmd="cmd1,cmd2,..."

--replace-safecmd=replace-file

--append-safecmd=append-file or -a append-file or --append-safecmd="cmd1,cmd2,..."

Exclude from, replace or append to the list of regular expressions (RegEx) matching commands which are safe to use within the scope of a `\DIFadd` or `\DIFdel` command. The file must contain one Perl-RegEx per line (Comment lines beginning with # or % are ignored). Note that the RegEx needs to match the whole of the token, i.e., /^regex$/ is implied and that the initial "\" of the command is not included. The **--exclude-safecmd** and **--append-safecmd** options can be combined with the **---replace-safecmd** option and can be used repeatedly to add cumulatively to the lists. **--exclude-safecmd** and **--append-safecmd** can also take a comma separated list as input. If a comma for one of the regex is required, escape it thus "\,". In most cases it will be necessary to protect the comma-separated list from the shell by putting it in quotation marks.

--exclude-textcmd=exclude-file or -X exclude-file or --exclude-textcmd="cmd1,cmd2,..."

--replace-textcmd=replace-file

--append-textcmd=append-file or -x append-file or --append-textcmd="cmd1,cmd2,..."

Exclude from, replace or append to the list of regular expressions matching commands whose last argument is text. See entry for **--exclude-safecmd** directly above for further details.

--replace-context1cmd=replace-file

--append-context1cmd=append-file or

--append-context1cmd="cmd1,cmd2,..."

Replace or append to the list of regex matching commands whose last argument is text but which require a particular context to work, e.g. `\caption`

will only work within a figure or table. These commands behave like text commands, except when they occur in a deleted section, when they are disabled, but their argument is shown as deleted text.

--replace-context2cmd=replace-file

--append-context2cmd=append-file or

--append-context2cmd="cmd1,cmd2,..."

As corresponding commands for context1. The only difference is that context2 commands are completely disabled in deleted sections, including their arguments.

context2 commands are also the only commands in the preamble, whose argument will be processed in word-by-word mode (which only works, if they occur no more than once in the preamble). The algorithm currently cannot cope with repeated context2 commands in the preamble, as they occur e.g. for the `\author` argument in some journal styles (not in the standard styles, though If such a repetition is detected, the whole preamble will be processed in line-by-line mode. In such a case, use `--replace-context2cmd` option to just select the commands, which should be processed and are not used repeatedly in the preamble.

--exclude-mboxsafecmd=exclude-file or --exclude-mboxsafecmd="cmd1,cmd2,..."

--append-mboxsafecmd=append-file or --append-mboxsafecmd="cmd1,cmd2,..."

Define safe commands, which additionally need to be protected by encapsulating in an `\mbox{..}`. This is sometimes needed to get around incompatibilities between external packages and the ulem package, which is used for highlighting in the default style UNDERLINE as well as CULINECHBAR CFONTSTRIKE

--config var1=val1,var2=val2,... or -c var1=val1,..

-c configfile

Set configuration variables. The option can be repeated to set different variables (as an alternative to the comma-separated list). Available variables (see below for further explanations):

`ARRENV` (RegEx)

`COUNTERCMD` (RegEx)

`CUSTODIFCMD` (RegEx)

`FLOATENV` (RegEx)

`ITEMCMD` (RegEx)

`LISTENV` (RegEx)

`MATHARRENV` (RegEx)

`MATHENV` (RegEx)

`MATHREPL` (String)

`MAXCHANGESLETTER` (Integer)

`MINWORDSBLOCK` (Integer)

`PICTUREENV` (RegEx)

`SCALEDELGRAPHICS` (Float)

--add-to-config varenv1=pattern1,varenv2=pattern2,...

For configuration variables, which are a regular expression (essentially those ending in ENV, COUNTERCMD and CUSTOMDIFCMD, see list above) this option provides an alternative way to modify the configuration variables. Instead of setting the complete pattern, with this option it is possible to add an alternative pattern. `varenv` must be one of the variables listed above that take a regular expression as argument, and pattern is any regular expression (which might need to be protected from the shell by quotation). Several patterns can be added at once by using semi-colons to separate them, e.g. `--add-to-config "LISTENV=myitemize;myenumerate,COUNTERCMD=endnote"`

--show-preamble

Print generated or included preamble commands.

--show-safecmd

Print list of RegEx matching and excluding safe commands.

--show-textcmd

Print list of RegEx matching and excluding commands with text argument.

--show-config

Show values of configuration variables.

--show-all

Combine all --show commands.

NB For all --show commands, the behaviour is different dependent whether `old.tex` or `new.tex` files are specified. If they are not not then the initial setup is shown. If they are specified, then the full configuration is shown, which includes some additions of internal commands, and modifications based on what packages are present on the system, or are used in the .tex files. Either way, no differencing takes place.

Other configuration options:

--allow-spaces

Allow spaces between bracketed or braced arguments to commands. Note that this option might have undesirable side effects (unrelated scope might get lumpeded with preceding commands) so should only be used if the default produces erroneous results. (Default requires arguments to directly follow each other without intervening spaces).

--math-markup=level

Determine granularity of markup in displayed math environments: Possible values for level are (both numerical and text labels are acceptable):

`off` or `0`: suppress markup for math environments. Deleted equations will not appear in diff file. This mode can be used if all the other modes cause invalid latex code.

`whole` or `1`: Differencing on the level of whole equations. Even trivial changes to equations cause the whole equation to be marked changed. This mode can be used if processing in coarse or fine mode results in invalid latex code.

`coarse` or `2`: Detect changes within equations marked up with a coarse granularity; changes in equation type (e.g.displaymath to equation) appear as a change to the complete equation. This mode is recommended for situations where the content and order of some equations are still being changed. [Default]

`fine` or `3`: Detect small change in equations and mark up at fine granularity. This mode is most suitable, if only minor changes to equations are expected, e.g. correction of typos.

--graphics-markup=level

```
Change highlight style for graphics embedded with C<\includegraphics> commands.
```

Possible values for level:

`none`, `off` or `0`: no highlighting for figures

`new-only` or `1`: surround newly added or changed figures with a blue frame [Default if graphicx package loaded]

`both` or `2`: highlight new figures with a blue frame and show deleted figures at reduced scale, and crossed out with a red diagonal cross. Use configuration variable SCALEDELGRAPHICS to set size of deleted figures.

Note that changes to the optional parameters will make the figure appear as changed to latexdiff, and this figure will thus be highlighted.

In some circumstances "Misplaced \noalign" error can occur if there are certain types of changes in tables. In this case please use `--graphics-markup=none` as a work-around.

--no-del

Suppress deleted text from the diff. It is similar in effect to the BOLD style, but the deleted text ist not just invisible in the output, it is also not included in the diff text file. This can be more robust than just making it invisible.

--disable-citation-markup or --disable-auto-mbox

Suppress citation markup and markup of other vulnerable commands in styles using ulem (UNDERLINE,FONTSTRIKE, CULINECHBAR) (the two options are identical and are simply aliases)

--enable-citation-markup or --enforce-auto-mbox

Protect citation commands and other vulnerable commands in changed sections with `\mbox` command, i.e. use default behaviour for ulem package for other packages (the two options are identical and are simply aliases)

Miscellaneous

--verbose or -V

Output various status information to stderr during processing. Default is to work silently.

--driver=type

Choose driver for changebar package (only relevant for styles using changebar: CCHANGEBAR CFONTCHBAR CULINECHBAR CHANGEBAR). Possible drivers are listed in changebar manual, e.g. pdftex,dvips,dvitops [Default: pdftex]

--ignore-warnings

Suppress warnings about inconsistencies in length between input and parsed strings and missing characters. These warning messages are often related to non-standard latex or latex constructions with a syntax unknown to `latexdiff` but the resulting difference argument is often fully functional anyway, particularly if the non-standard latex only occurs in parts of the text which have not changed.

--label=label or -L label

Sets the labels used to describe the old and new files. The first use of this option sets the label describing the old file and the second use of the option sets the label for the new file, i.e. set both labels like this `-L labelold -L labelnew`. [Default: use the filename and modification dates for the label]

--no-label

Suppress inclusion of old and new file names as comment in output file

--visible-label

Include old and new filenames (or labels set with `--label` option) as visible output.

--flatten

Replace \input and \include commands within body by the content of the files in their argument. If \includeonly is present in the preamble, only those files are expanded into the document. However, no recursion is done, i.e. \input and \include commands within included sections are not expanded. The included files are assumed to be located in the same directories as the old and new master files, respectively, making it possible to organise files into old and new directories. --flatten is applied recursively, so inputted files can contain further \input statements. Also handles files included by the import package (\import and \subimport), and \subfile command.

Use of this option might result in prohibitive processing times for larger documents, and the resulting difference document no longer reflects the structure of the input documents.

--filter-script=filterscript

Run files through this filterscript (full path preferred) before processing. The filterscript must take STDIN input and output to STDOUT. When coupled with --flatten, each file will be run through the filter as it is brought in.

--ignore-filter-stderr

When running with --filter-script, STDERR from the script may cause readability issues. Turn this flag on to ignore STDERR from the filter script.

--help or -h

Show help text

--version

Show version number

Internal options

These options are mostly for automated use by latexdiff-vc. They can be used directly, but the API should be considered less stable than for the other options.

--no-links

Suppress generation of hyperreferences, used for minimal diffs (option --only-changes of latexdiff-vc)

Predefined styles

Major types

The major type determine the markup of plain text and some selected latex commands outside floats by defining the markup commands `\DIFadd{...}` and `\DIFdel{...}` .

`UNDERLINE`

> Added text is wavy-underlined and blue, discarded text is struck out and red (Requires color and ulem packages). Overstriking does not work in displayed math equations such that deleted parts of equation are underlined, not struck out (this is a shortcoming inherent to the ulem package).

`LUAUNDERLINE`

> Added text is underlined and blue, discarded text is struck out and red (Requires lua-ul package + LuaLaTeX).

`CTRADITIONAL`

> Added text is blue and set in sans-serif, and a red footnote is created for each discarded piece of text. (Requires color package)

`TRADITIONAL`

> Like `CTRADITIONAL` but without the use of color.

`CFONT`

> Added text is blue and set in sans-serif, and discarded text is red and very small size.

`FONTSTRIKE`

> Added tex is set in sans-serif, discarded text small and struck out

`CCHANGEBAR`

> Added text is blue, and discarded text is red. Additionally, the changed text is marked with a bar in the margin (Requires color and changebar packages).

`CFONTCHBAR`

> Like `CFONT` but with additional changebars (Requires color and changebar packages).

`CULINECHBAR`

> Like `UNDERLINE` but with additional changebars (Requires color, ulem and changebar packages).

`CHANGEBAR`

> No mark up of text, but mark margins with changebars (Requires changebar package).

`INVISIBLE`

No visible markup (but generic markup commands will still be inserted.

`BOLD`

Added text is set in bold face, discarded is not shown. (also see --no-del option for another possibility to hide deleted text)

`PDFCOMMENT`

The pdfcomment package is used to underline new text, and mark deletions with a PDF comment. Note that this markup might appear differently or not at all based on the pdf viewer used. The viewer with best support for pdf markup is probably acroread. This style is only recommended if the number of differences is small.

Subtypes

The subtype defines the commands that are inserted at the begin and end of added or discarded blocks, irrespectively of whether these blocks contain text or commands (Defined commands: `\DIFaddbegin`, `\DIFaddend`, `\DIFdelbegin`, `\DIFdelend`)

`SAFE`

No additional markup (Recommended choice)

`MARGIN`

Mark beginning and end of changed blocks with symbols in the margin nearby (using the standard `\marginpar` command - note that this sometimes moves somewhat from the intended position.

`COLOR`

An alternative way of marking added passages in blue, and deleted ones in red. (It is recommeneded to use instead the main types to effect colored markup, although in some cases coloring with dvipscol can be more complete, for example with citation commands).

`DVIPSCOL`

An alternative way of marking added passages in blue, and deleted ones in red. Note that `DVIPSCOL` only works with the dvips converter, e.g. not pdflatex. (it is recommeneded to use instead the main types to effect colored markup, although in some cases coloring with dvipscol can be more complete).

`ZLABEL`

can be used to highlight only changed pages, but requires post-processing. It is recommend to not call this option manually but use `latexdiff-vc` with `--only-changes` option. Alternatively, use the script given within preamble of diff files made using this style.

`ONLYCHANGEDPAGE`

also highlights changed pages, without the need for post-processing, but might not work reliably if there is floating material (figures, tables).

`LABEL`

is similar to `ZLABEL`, but does not need the zref package and works less reliably (deprecated).

Float Types

Some of the markup used in the main text might cause problems when used within floats (e.g. figures or tables). For this reason alternative versions of all markup commands are used within floats. The float type defines these alternative commands.

`FLOATSAFE`

Use identical markup for text as in the main body, but set all commands marking the begin and end of changed blocks to null-commands. You have to choose this float type if your subtype is `MARGIN` as `\marginpar` does not work properly within floats.

`TRADITIONALSAFE`

Mark additions the same way as in the main text. Deleted environments are marked by angular brackets \[and \] and the deleted text is set in scriptscript size. This float type should always be used with the `TRADITIONAL` and `CTRADITIONAL` markup types as the \footnote command does not work properly in floating environments.

`IDENTICAL`

Make no difference between the main text and floats.

Configuration Variables

`ARRENV`

If a match to `ARRENV` is found within an inline math environment within a deleted or added block, then the inlined math is surrounded by `\mbox{...}`. This is necessary as underlining does not work within inlined array environments.

[Default: `ARRENV=(?:array|[pbvBV]matrix)`

`COUNTERCMD`

If a command in a deleted block which is also in the textcmd list matches `COUNTERCMD` then an additional command `\addtocounter{`*cntcmd*`}{-1}`, where *cntcmd* is the matching command, is appended in the diff file such

that the numbering in the diff file remains synchronized with the numbering in the new file.

[Default: `COUNTERCMD=(?:footnote|part|section|subsection` ...

`|subsubsection|paragraph|subparagraph)`]

`CUSTOMDIFCMD`

This option is for advanced users and allows definition of special versions of commands, which do not work as safe commands.

Commands in `CUSTOMDIFCMD` that occur in added or deleted blocks will be given an ADD or DEL prefix. The prefixed versions of the command must be defined in the preamble, either by putting them in the preamble of at least the new file, or by creating a custom preamble file (Option --preamble). For example the command `\blindtext` (from package blindtext) does not interact well with underlining, so that for the standard markup type, it is not satisfactory to define it as a safe command. Instead, a customised versions without underlining can be defined in the preamble:

`\newcommand{\DELblindtext}{{\color{red}\blindtext}}`

`\newcommand{\ADDblindtext}{{\color{blue}\blindtext}}`

and then latexdiff should be invoked with the option `-c CUSTOMDIFCMD=blindtext`.

[Default: none]

`FLOATENV`

Environments whose name matches the regular expression in `FLOATENV` are considered floats. Within these environments, the *latexdiff* markup commands are replaced by their FL variaties.

[Default: `(?:figure|table|plate)[\w\d*@]*`]

`ITEMCMD`

Commands representing new item line with list environments.

[Default: `\item`]

`LISTENV`

Environments whose name matches the regular expression in `LISTENV` are list environments.

[Default: `(?:itemize|enumerate|description)`]

`MATHENV,MATHREPL`

If both \begin and \end for a math environment (environment name matching `MATHENV` or \[and \]) are within the same deleted block, they are replaced by a \begin and \end commands for `MATHREPL` rather than being commented out.

[Default: `MATHENV=(?:displaymath|equation)` , `MATHREPL=displaymath`]

MAXCHANGESLETTER **When latexdiff detects a replacement of a single word, it will attempt to identify the changes at letter level. If there are many changes, it is likely that the word was replaced wholesale, and the letter-level changes would be confusing rather than helpful. In this case, latexdiff will fall back to display the replacement at word level. The approach to distinguish both cases is to simply count the number of distinct additions and deletions (not the number of letter changed!), and only if they are less than or equal to MAXCHANGESLETTER the letter-level markup is used. Sensible values are 0, 1, or 2. 0 will disable the letter-level markup completely. 1 will only allow a single addition or deletion, e.g., for a typo correction or change singular/plural of a verb, but no substitution. 2 will allow one substitution (or two additions or deletions)---this will sometimes result in different words being marked up on letter level, e.g. they-> there will show deleted "y" and added "re", which is often not desirable.**

[Default: 1]

MINWORDSBLOCK

Minimum number of tokens required to form an independent block. This value is used in the algorithm to detect changes of complete blocks by merging identical text parts of less than MINWORDSBLOCK to the preceding added and discarded parts.

[Default: 3]

PICTUREENV

Within environments whose name matches the regular expression in PICTUREENV all latexdiff markup is removed (in pathologic cases this might lead to inconsistent markup but this situation should be rare).

[Default: `(?:picture|DIFnomarkup)[\w\d*@]*`]

SCALEDELGRAPHICS

If `--graphics-markup=both` is chosen, SCALEDELGRAPHICS is the factor, by which deleted figures will be scaled (i.e. 0.5 implies they are shown at half linear size).

[Default: 0.5]

VERBATIMENV

RegEx describing environments like verbatim, whose contents should be taken verbatim. The content of these environments will not be processed in any way: deleted content is commented out, new content is not marked up

[Default: `comment`]

`VERBATIMLINEENV`

RegEx describing environments like verbatim, whose contents should be taken verbatim. The content of environments described by VERBATIMLINEENV are compared in line mode, and changes are marked up using the listings package. The markup style is set based on the chosen mains markup type (Option -t), or on an analysis of the preamble. Note that "listings.sty" must be installed. If this file is not found the fallback solution is to treat VERBATIMLINEENV environments treated exactly the same way as VERBATIMENV environments.

[Default: `(?:verbatim[*]?|lstlisting`]

5 DIRECTIVES

Sometimes, the output `latexdiff` produces is not satisfactory or some complicated constructions even lead to difference tex file that leads to error. It is possible to give latexdiff some hints to control the markup by placing some special comments, termed *directives* into the tex file. Directives mark blocks by paired `BEGIN` and `END` directives. It is important that the directives are written exactly as specified below,i.e., all letters need to be capitalised and there has to be exactly one space between BEGIN/END and the block type. However, after the directive arbitrary comments can be added. Nesting of blocks or overlapping blocks are not parsed correctly and will cause undefined behaviour. Blocks can be spanning across scope boundaries; they can also be used in the last argument of text commands. If they appear in the arguments of other commands, then latexdiff will assume they were placed before or after the command; it is best to avoid this, though.

`DIFADD` **block**

```
...
%BEGIN DIFADD
...
%END DIFADD
...
```

Everything enclosed between the `%BEGIN DIFADD` and `%END DIFADD` directives will be treated as atomistic addition to the text. The interior will be marked up as added text following the normal rules for what is marked up. A use case for this directive is when a paragraph has been changed substantially but retains some of the phrasing of the original paragraph. As latexdiff prefers to find a minimal difference between two files, such a configuration will usually lead to a fragmented markup, with several added and deleted sentences or parts of sentenced and a few remaining phrases marked as unchanged. With the use of this directive it is possible to mark the whole modified segment as new, which will then be marked-up

'en bloc' as new, and the old part as one block of deleted material, which is usually clearer than the fragmented default markup. `DIFADD` block directives must be placed into the the body of the new file. Those directives are ignored in the preamble or in the old file.

`DIFDEL` block

```
...
%BEGIN DIFDEL
...
%END DIFDEL
...
```

Everything enclosed between the `%BEGIN DIFDEL` and `%END DIFDEL` directives will be treated as atomistic deleted text. The interior will be marked up as deleted text following the normal rules for what is marked up. `DIFDEL` block directives must be placed into the the body of the old file. Those directives are ignored in the preamble or in the new file.The use case is similar to that of the `DIFADD` blocks, but the hint is placed in the old file. In most cases, is sufficient to either hint in the old file with a `DIFDEL` block *or* in the new file with a `DIFADD` block and latexdiff will take care of the rest.

`DIFNOMARKUP` block

```
...
%BEGIN DIFNOMARKUP
...
%END DIFNOMARKUP
...
```

The text between the markers will be included in the diff algorithm but no actual markup will be made in this part of the text. It will show the new text only and suppress the old text. If the text immediately above the DIFNOMARKUP block has been added a `\DIFaddend` will be placed directly above the `%BEGIN DIFNOMARKUP` line and any open `\DIFadd` command terminated, equivalently for deleted blocks and for text added or deleted immediately after the `%BEGIN DIFNOMARKUP`. The main purpose of this command is to salvage the situation if latexdiff has produced invalid or visually unacceptable output - markup in the offending passage can be suppressed by surrounding it with `DIFNOMARKUP` directives and rerunning latexdiff, thus enabling markup of the rest of the document (but please continue to report such failures of latexdiff as described below, so that latexdiff can be improved). This pair of directives must be placed in the new file and will be ignored in the old file (or the preambles of either file).

6 COMMON PROBLEMS AND FAQ

Changed citations result in overfull boxes

There is an incompatibility between the `ulem` package, which `latexdiff` uses for underlining and striking out in the UNDERLINE style, the default style, and the way citations are generated. In order to be able to mark up citations properly, they are enclosed with an `\mbox` command. As mboxes cannot be broken across lines, this procedure frequently results in overfull boxes, possibly obscuring the content as it extends beyond the right margin. The same occurs for some other packages (e.g., siunitx). If this is a problem, you have several possibilities.

1. Use `CFONT` type markup (option `-t CFONT`): If this markup is chosen, then changed citations are no longer marked up with the wavy line (additions) or struck out (deletions), but are still highlighted in the appropriate color, and deleted text is shown with a different font. Other styles not using the `ulem` package will also work.

2. Choose option `--disable-citation-markup` which turns off the marking up of citations: deleted citations are no longer shown, and added citations are shown without markup. (This was the default behaviour of latexdiff at versions 0.6 and older). For custom packages you can define the commands which need to be protected by `\mbox` with `--append-mboxsafecmd` and `--excludemboxsafecmd` options (submit your lists of command as feature request at github page to set the default behaviour of future versions, see section 6)

3. If you are using luatex >= 1.12.0 you can use option LUAUNDERLINE that uses lua-ul instead of ulem for underlining, which does not have this problem (experimental feature).

Changes in complicated mathematical equations result in latex processing errors.

Try option `--math-markup=whole`. If even that fails, you can turn off mark up for equations with `--math-markup=off`.

Deleted parts in equations are not struck out but underlined.

This is a limitation of the ulem package that implements the strike-out. If you use the amsmath package, then the strike-out command is redefined in such a way that deleted passages are wrapped with `\text` command; adding `\usepackage{amsmath}` to your preamble will trigger this behaviour. (If amsmath is not included directly, but imported by another package, latexdiff will not be able to detect its availability; in this case you can give latexdiff a hint with option `--packages=amsmath`.

How can I just show the pages where changes had been made?

Use options `--s ZLABEL` (some postprocessing required) or `-s ONLYCHANGEDPAGE`. `latexdiff-vc --ps|--pdf` with `--only-changes` option takes care of the post-processing for you (requires zref package to be installed).

The character encoding breaks when running latexdiff from powershell.

This problem is not limited to `latexdiff` and has to do with the default settings of `powershell` in Windows. It is recommended to use `cmd` instead.

7 KNOWN BUGS

Option `--allow-spaces` is not implemented entirely consistently. It breaks the rules that number and type of white space does not matter, as different numbers of inter-argument spaces are treated as significant.

Please submit bug reports using the issue tracker of the github repository page *https://github.com/ftilmann/latexdiff.git*, or send them to *tilmann -- AT -- gfz-potsdam.de*. Include the version number of *latexdiff* (from comments at the top of the source or use **--version**). If you come across latex files that are error-free and conform to the specifications set out above, and whose differencing still does not result in error-free latex, please send me those files, ideally edited to only contain the offending passage as long as that still reproduces the problem. If your file relies on non-standard class files, you must include those. I will not look at examples where I have trouble to latex the original files.

8 SEE ALSO

latexrevise, *latexdiff-vc*

9 PORTABILITY

latexdiff does not make use of external commands and thus should run on any platform supporting Perl 5.6 or higher. If files with encodings other than ASCII or UTF-8 are processed, Perl 5.8 or higher is required.
The standard version of *latexdiff* requires installation of the Perl package `Algorithm::Diff` (available from *www.cpan.org - http://search.cpan.org/~nedkonz/Algorithm-Diff-1.15*) but a stand-alone version, *latexdiff-so*, which has this package inlined, is available, too. *latexdiff-fast* requires the *diff* command to be present.

10 AUTHOR

Version 1.4.0 Copyright (C) 2004-2024 Frederik Tilmann
This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License Version 3

Contributors of fixes and additions: V. Kuhlmann, J. Paisley, N. Becker, T. Doerges, K. Huebner, T. Connors, Sebastian Gouezel and many others. Thanks to the many people who sent in bug reports, feature suggestions, and other feedback.

1 NAME

latexrevise - selectively remove markup and text from latexdiff output

2 SYNOPSIS

latexrevise [**OPTIONS**] [*diff.tex*] > *revised.tex*

3 DESCRIPTION

latexrevise reads a file `diff.tex` (output of *latexdiff*), and remove the markup commands. If no filename is given the input is read from standard input. The command can be used in *ACCEPT*, *DECLINE*, or *SIMPLIFY* mode, or can be used to remove user-defined latex commands from the input (see **-c**, **-e**, **-m**, and **-n** below). In *ACCEPT* mode, all appended text fragments (or preamble lines) are kept, and all discarded text fragments (or preamble lines) are deleted. In *DECLINE* mode, all discarded text fragments are kept, and all appended text fragments are deleted. If you wish to keep some changes, edit the diff.tex file in advance, and manually remove those tokens which would otherwise be deleted. Note that *latexrevise* only pays attention to the `\DIFaddbegin`, `\DIFaddend`, `\DIFdelbegin`, and `\DIFdelend` tokens and corresponding FL varieties. All `\DIFadd` and `\DIFdel` commands (but not their contents) are simply deleted. The commands added by latexdiff to the preamble are also removed. In *SIMPLIFY* mode, `\DIFaddbegin, \DIFaddend, \DIFdelbegin, \DIFdelend` tokens and their corresponding `FL` varieties are kept but all other markup (e.g. `DIFadd` and <\DIFdel>) is removed. The result will not in general be valid latex-code but it will be easier to read and edit in preparation for a subsequent run in *ACCEPT* or *DECLINE* mode. In *SIMPLIFY* mode the preamble is left unmodified.

4 OPTIONS

-a or --accept

Run in *ACCEPT* mode (delete all blocks marked by `\DIFdelbegin` and `\DIFdelend`).

-d or --decline

Run in *DECLINE* mode (delete all blocks marked by `\DIFaddbegin` and `\DIFaddend`).

-s or --simplify

Run in *SIMPLIFY* mode (Keep all `\DIFaddbegin`, `\DIFaddend`, `\DIFdelbegin`, `\DIFdelend` tokens, but remove all other latexdiff markup from body).

Note that the three mode options are mutually exclusive. If no mode option is given, *latexrevise* simply removes user annotations and markup according to the following four options. These functions can be very useful outside the latexdiff context, too

-c cmd or --comment=cmd

Remove \cmd{...} sequences. `cmd` is supposed to mark some explicit annotations which should be removed from the file before release.

-e envir or --comment-environment=envir

Remove explicit annotation environments from the text, i.e. remove

```
\begin{envir}
...
\end{envir}
```

blocks.

-m cmd or --markup=cmd

Remove the markup command \cmd but leave its argument, i.e. turn \cmd{abc} into abc.

-n envir or --markup-environment=envir

Similarly, remove \begin{envir} and \end{envir} commands but leave content of the environment in the text.

-r cmd or --replace=cmd

For constructions \\cmd{..}{..}, remove the command, leave the content of first argument, and delete second argument, i.e. turn \cmd{abc}{def} into abc.

-V or --verbose

Verbose output

-q or --no-warnings

Do not warn users about \DIDadd{..} or \DIFdel{..} statements which should have been removed already.

5 BUGS

The current version is a beta version which has not yet been extensively tested. It has not been actively maintained so might not process output of newer versions of latexdiff entirely correctly. Please submit bug reports using the issue tracker of the github repository page *https://github.com/ftilmann/latexdiff.git*, or send them to *tilmann -- AT -- gfz-potsdam.de*. Include the serial number

of *latexrevise* (Option --version). If you come across latexdiff output which is not processed correctly by *latexrevise* please include the problem file as well as the old and new files on which it is based, ideally edited to only contain the offending passage as long as that still reproduces the problem.
Note that *latexrevise* gets confused by commented `\begin{document}` or `\end{document}` statements

6 SEE ALSO

latexdiff

7 PORTABILITY

latexrevise does not make use of external commands and thus should run on any platform supporting PERL v5 or higher.

8 AUTHOR

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1 NAME

latexdiff-vc - wrapper script that calls latexdiff for different versions of a file under version management (CVS, RCS or SVN)

2 SYNOPSIS

latexdiff-vc [*latexdiff-options*] [*latexdiff-vc-options*] **-r** [*rev1*] [**-r** *rev2*] *file1.tex* [*file2.tex* ...]

`or`

latexdiff-vc [*latexdiff-options*] [*latexdiff-vc-options*][**--postscript** | **--pdf**] *old.tex new.tex*

3 DESCRIPTION

latexdiff-vc is a wrapper script that applies *latexdiff* to a file, or multiple files under version control (git, subversion (SVN), mercurial (hg), CVS, RCS), and optionally runs the sequence of `latex` and `dvips` or `pdflatex` commands necessary to produce pdf or postscript output of the difference tex file(s). It can also be applied to a pair of files to automatise the generation of difference file in postscript or pdf format.

4 OPTIONS

--rcs, --svn, --cvs, --git or --hg

Set the version control system used. If no version system is specified, latexdiff-vc will venture a guess.

latexdiff-cvs, latexdiff-rcs etc are variants of latexdiff-vc which default to the respective versioning system. However, this default can still be overridden using the options above.

Note that hg needs to support the `--root` option (version >= 2.9)

-r, -r *rev* or --revision, --revision=*rev*

Choose revision (under RCS, CVS, SVN, GIT or HG). One or two **-r** options can be specified, and they result in different behaviour:

latexdiff-vc -r *file.tex* ...

compares *file.tex* with the most recently checked-in version checked.

latexdiff-vc -r *rev1* *file.tex* ...

compares *file.tex* with revision *rev1*.

latexdiff-vc -r *rev1* -r *rev2* *file.tex* ...

compares revisions *rev1* and *rev2* of *file.tex*.

Multiple files can be specified for all of the above options. All files must have the extensions `.tex`, `.bbl`, or `.flt`, though.

latexdiff-vc *old.tex* *new.tex*

compares two files.

The name of the difference file is generated automatically and reported to stdout.

-d or --dir -d *path* or --dir=*path*

Rather than appending the string `diff` and optionally the version numbers given to the output-file, this will prepend a directory name `diff` to the original filename, creating the directory and sub-directories should they not exist already. This is particularly useful in order to clone a complete directory hierarchy. Optionally, a pathname *path* can be specified, which is prepended instead of `diff`.

--flatten,--flatten=keep-intermediate

If combined with `--git`, `--svn` or `--hg` option or the corresponding modes, check out the revisions to compare in a separate temporary directory, and then pass on option `--flatten` to latexdiff. The directory in which `latexdiff-vc` is invoked defines the subtree which will be checked out. Note that if additional files are needed which are not included in the flatten procedure (package files, included graphics), they need to be accessible in the current directory. If you use bibtex, it is recommended to include the `.bbl` file in the version management. From latexdiff-vc >=1.3.4 there is an attempt to create the `.bbl` file by running bibtex in the retrieved subdirectories; note that the bibtex is run in the temporary subdirectories so any .bib or .bst files either need to be under version management, or in the global search paths for bibtex (shell environment variables `BIBINPUTS` and `BSTINPUTS`).

The generic usage of this function is : `latexdiff-vc --flatten -r rev1 [-r rev2] master.tex` where master.tex is the project file containing the highest level of includes etc.

With `--flatten=keep-intermediate`, the intermediate revision snapshots are kept in the current directory (Default is to store them in a temporary directory and delete them after generating the diff file.)

--only-changes

Post-process the output such that only pages with changes on them are displayed. This requires the use of subtype ZLABEL in latexdiff, which will be set automatically, but any manually set -s option will be overruled (also requires zref package to be installed). This option also disables internal links (as implemented by hyperref package) and graphics markup. (note that this option must be combined with --ps or --pdf to make sense)

--force

Overwrite existing diff files without asking for confirmation. Default behaviour is to ask for confirmation before overwriting an existing difference file.

--run

run latex command on diff file after generation of diff file.

--dvi

run latex and dvixxx commands after generation of diff file.

-c configfile =item --config var1=val1,var2=val2,... or -c var1=val1,..

Set configuration variables for latexdiff and latexdiff-vc. The option can be repeated to set different variables (as an alternative to the comma-separated list). Available variables for latexdiff-vc:

`LATEXDIFF` **latexdiff command (e.g. latexdiff-fast, latexdiff-so). This command should support the options** `-draftmode` **and** `-interaction=batchmode`

`LATEX` **latex command (e.g. pdflatex, lualatex)**

`DVI2` **Command for conversion of dvi file (e.g. dvips, dvipdf)**

`BIBTEX` **Command replacing bibtex**

All other config variables are passed to latexdiff. Explicitly set configuration changes always override implicit changes by the following shortcut options **--fast**, **--so**, **--ps** and **--pdf**.

--fast or --so

Use `latexdiff-fast` or `latexdiff-so`, respectively (instead of `latexdiff`).

--ps or --postscript

Generate postscript output from difference file. This will run the sequence `latex; latex; dvips` on the difference file (do not use this option in the rare cases, where three `latex` commands are required if you care about correct referencing). If the difference file contains a `\bibliography` tag, run the sequence `latex; bibtex; latex; latex; dvips`.

--pdf

Generate pdf output from difference file using `pdflatex`. This will run the sequence `pdflatex; pdflatex` on the difference file, or `pdflatex; bibtex; pdflatex; pdflatex` for files requiring bibtex. Note that this is not just a shortcut for setting configuration variable but also triggers some special behaviour.

--show-config

Show values of configuration variables.

--help or -h

Show help text

--version

Show version number

All other options are passed on to `latexdiff`. Note that it is not always easy for latexdiff to correctly assign arguments to options when short form (single letter) options are used so it is recommended to use long-form options.

5 SEE ALSO

latexdiff

6 PORTABILITY

latexdiff-vc uses external commands and is therefore dependent on the system architecture; it has been tested mainly on Unix-like systems. It also requires a version control system and latex to be installed on the system to make use of all features. Modules from Perl 5.8 or higher are required.

7 BUG REPORTING

Please submit bug reports using the issue tracker of the github repository page *https://github.com/ftilmann/latexdiff.git*, or send them to *tilmann -- AT -- gfz-potsdam.de*. Include the version number of *latexdiff-vc* (option `--version`).

8 AUTHOR

Version 1.3.4 Copyright (C) 2005-2017 Frederik Tilmann
This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License Version 3 Contributors: S Utcke, H Bruyninckx; some ideas have been inspired by git-latexdiff bash script. C. Junghans: Mercurial Support.

A simple example

We start with a draft text, `example-draft.tex`, listed here in full but also included in the distribution (except that the "verbatim" environment had to be renamed to "Verbatim" for the listing).

```
\documentclass[12pt,a4paper]{article}

\setlength{\topmargin}{-0.2in}
\setlength{\textheight}{9.5in}
\setlength{\oddsidemargin}{0.0in}

\setlength{\textwidth}{6.5in}

\title{latexdiff Example - Draft version}
\author{F Tilmann}

\begin{document}
\maketitle

\section*{Introduction}

This is an extremely simple document that showcases some of latexdiff features.
Type
\begin{Verbatim}
latexdiff -t UNDERLINE example-draft.tex example-rev.tex > example-diff.tex
\end{Verbatim}
to create the difference file.  You can inspect this file directly. Then run either
\begin{Verbatim}
pdflatex example-diff.tex
xpdf example-diff.pdf
\end{Verbatim}
or
\begin{Verbatim}
latex example-diff.tex
dvips -o example-diff.ps example-diff.dvi
gv example-diff.ps
\end{Verbatim}
to display the markup. Of course, instead of \verb|xpdf| you can use
\verb|okular, evince, acroread| or any other pdf or postscript viewer.

\section*{Another section title}

A paragraph with a line only in the draft document.  More things
could be said were it not for the constraints of time and space.

More things could be said were it not for the constraints of time and space.

And here is a tipo.

Here is a table:

\begin{tabular}{ll}
Name & Description \\
\hline
Gandalf & Grey \\
Saruman & White
\end{tabular}

And sometimes a whole paragraph gets completely rewritten. In this
case latexdiff marks up the whole paragraph even if some words in it
are identical.
No change, no markup!
\end{document}
```

We can now edit this text as we would do with any other latex file to create a

new revision of the text, `example-rev.tex`. We should run

`latex example-rev.tex`

and look at the resulting `.dvi` file to make sure that all changes are valid. An example revision is listed here:

```
\documentclass[12pt,a4paper]{article}

\setlength{\topmargin}{-0.2in}
\setlength{\textheight}{9.5in}
\setlength{\oddsidemargin}{0.0in}

\setlength{\textwidth}{6in}

\title{latexdiff Example - Revised version}
\author{F Tilmann}
% Note how in the preamble visual markup is never used (even
% if some preamble might eventually end up as visible text.)

\begin{document}
\maketitle

\section*{Introduction}

This is an extremely simple document that showcases some of the latexdiff features.
Type
\begin{Verbatim}
latexdiff -t UNDERLINE example-draft.tex example-rev.tex > example-diff.tex
\end{Verbatim}
to create the difference file.  You can inspect this file directly. Then run either
\begin{Verbatim}
pdflatex example-diff.tex
xpdf example-diff.pdf
\end{Verbatim}
or
\begin{Verbatim}
latex example-diff.tex
dvips -o example-diff.ps example-diff.dvi
gv example-diff.ps
\end{Verbatim}
to display the markup.

\section*{Yet another section title}

 More things could be said were it not for the constraints of time and space.

A paragraph with a line only in the revised document.
More things could be said were it not for the constraints of time and space.

And here is a typo.

Here is a table:

\begin{tabular}{ll}
Name & Description \\
\hline
Gandalf & White \\
Saruman & Evil
\end{tabular}

And now for something completely different, with not a paragraph in sight.
No change,
no markup!
\end{document}
```

To compare both revisions, type

```
latexdiff -t UNDERLINE example-draft.tex example-rev.tex > example-diff.tex
```

This results in the following difference file (a few newlines have been added in this listing for legibility reasons):

```
\documentclass[12pt,a4paper]{article}

\setlength{\topmargin}{-0.2in}
\setlength{\textheight}{9.5in}
\setlength{\oddsidemargin}{0.0in}

%DIF 7c7
%DIF < \setlength{\textwidth}{6.5in}
%DIF -------
\setlength{\textwidth}{6in} %DIF >
%DIF -------

%DIF 9c9
%DIF < \title{latexdiff Example - Draft version}
%DIF -------
\title{latexdiff Example - Revised version} %DIF >
%DIF -------
\author{F Tilmann}
% Note how in the preamble visual markup is never used (even %DIF >
% if some preamble might eventually end up as visible text.) %DIF >
%DIF PREAMBLE EXTENSION ADDED BY LATEXDIFF
%DIF UNDERLINE PREAMBLE %DIF PREAMBLE
\RequirePackage[normalem]{ulem} %DIF PREAMBLE
\RequirePackage{color} %DIF PREAMBLE
\providecommand{\DIFadd}[1]{{\color{blue}\uline{#1}}} %DIF PREAMBLE
\providecommand{\DIFdel}[1]{{\color{red}\sout{#1}}}                       %DIF PREAMBLE
%DIF SAFE PREAMBLE %DIF PREAMBLE
\providecommand{\DIFaddbegin}{} %DIF PREAMBLE
\providecommand{\DIFaddend}{} %DIF PREAMBLE
\providecommand{\DIFdelbegin}{} %DIF PREAMBLE
\providecommand{\DIFdelend}{} %DIF PREAMBLE
%DIF FLOATSAFE PREAMBLE %DIF PREAMBLE
\providecommand{\DIFaddFL}[1]{\DIFadd{#1}} %DIF PREAMBLE
\providecommand{\DIFdelFL}[1]{\DIFdel{#1}} %DIF PREAMBLE
\providecommand{\DIFaddbeginFL}{} %DIF PREAMBLE
\providecommand{\DIFaddendFL}{} %DIF PREAMBLE
\providecommand{\DIFdelbeginFL}{} %DIF PREAMBLE
\providecommand{\DIFdelendFL}{} %DIF PREAMBLE
%DIF END PREAMBLE EXTENSION ADDED BY LATEXDIFF

\begin{document}
\maketitle

\section*{Introduction}

This is an extremely simple document that showcases some of latexdiff features.
Type
\begin{Verbatim}
latexdiff -t UNDERLINE example-draft.tex example-rev.tex > example-diff.tex
\end{Verbatim}
to create the difference file.  You can inspect this file directly. Then run either
\begin{Verbatim}
pdflatex example-diff.tex
xpdf example-diff.pdf
\end{Verbatim}
or
\begin{Verbatim}
latex example-diff.tex
dvips -o example-diff.ps example-diff.dvi
gv example-diff.ps
\end{Verbatim}
to display the markup.
```

```
\section*{\DIFaddbegin \DIFadd{Yet another }\DIFaddend \DIFdelbegin
\DIFdel{Another }\DIFdelend section title}

 \DIFdelbegin \DIFdel{A paragraph with a line only in the draft
   document.  }\DIFdelend More things could
 be said were it not for the constraints of time and space.

\DIFaddbegin \DIFadd{A paragraph with a line only in the revised
  document.  }\DIFaddend More things could be said
were it not for the constraints of time and space.

And here is a \DIFaddbegin \DIFadd{typo}\DIFaddend \DIFdelbegin
\DIFdel{tipo}\DIFdelend .

Here is a table:

\begin{tabular}{ll}
Name & Description \\
\hline
Gandalf & \DIFaddbegin \DIFadd{White }\DIFaddend \DIFdelbegin
\DIFdel{Grey }\DIFdelend \\
Saruman & \DIFaddbegin \DIFadd{Evil
}\DIFaddend \DIFdelbegin \DIFdel{White
}\DIFdelend \end{tabular}

And \DIFaddbegin \DIFadd{now for something completely different, with not
 a paragraph in sight}\DIFaddend \DIFdelbegin \DIFdel{sometimes a whole
 paragraph gets completely rewritten. In this
case latexdiff marks up the whole paragraph even if some words in it
are identical}\DIFdelend .
No change,
no markup!
\end{document}
```

Type

```
pdflatex example-diff.tex
xpdf example-diff.pdf
```

to make the markup visible. This is what it looks like:

latexdiff Example - ~~Draft~~ Revised version

F Tilmann

October 3, 2026

Introduction

This is an extremely simple document that showcases some of the latexdiff features. Type

```
latexdiff -t UNDERLINE example-draft.tex example-rev.tex > example-diff.tex
```

to create the difference file. You can inspect this file directly. Then run either

```
pdflatex example-diff.tex
xpdf example-diff.pdf
```

or

```
latex example-diff.tex
dvips -o example-diff.ps example-diff.dvi
gv example-diff.ps
```

to display the markup.

~~Another~~ Yet another section title

~~A paragraph with a line only in the draft document.~~ More things could be said were it not for the constraints of time and space.

A paragraph with a line only in the revised document. More things could be said were it not for the constraints of time and space.

And here is a ~~tipo~~typo.

Here is a table:

Name	Description
Gandalf	~~Grey~~ White
Saruman	~~White~~ Evil

And ~~sometimes a whole paragraph gets completely rewritten. In this case latexdiff marks up the whole paragraph even if some words in it are identical~~now for something completely different, with not a paragraph in sight. No change, no markup!

If you approve of all the changes in the revision, just continue with `example-rev.tex`

for the next revision. If you like to adopt most but not all changes you can use `latexrevise` in the following manner. Simply edit `example-diff.tex` to remove the `\DIFdelbegin` and `\DIFdelend` tags around the text you would like to keep and simply remove the text between `\DIFaddbegin` and `\DIFaddend` tags, if you do not wish to keep them. Say you are happy with all proposed changes for the example above except in the last paragraph where you prefer the original draft. You have to change

```
...
And \DIFaddbegin \DIFadd{now for something completely different, with not
 a paragraph in sight}\DIFaddend \DIFdelbegin \DIFdel{sometimes a whole
 paragraph gets completely rewritten. In this
case latexdiff marks up the whole paragraph even if some words in it
are identical}\DIFdelend .
...
```

into

```
...
And \DIFdel{sometimes a whole
 paragraph gets completely rewritten. In this
case latexdiff marks up the whole paragraph even if some words in it
are identical}.
...
```

and run

```
latexrevise -a example-diff.tex > example-final.tex
```

`example-final.tex` is then almost identical to `example-rev.tex` except for the last paragraph.

External tools

The following is an incomplete list of wrappers written by others providing some added functionality. These are not included with the distribution but need to be downloaded and installed separately.

latexdiffcite (Author: Christer van der Meeren) is a wrapper around latexdiff to make citations diff properly. It works by expanding `\cite` type commands using the bbl or bib file, such that citations are treated just like normal text rather than as atomic in the plain latexdiff.
`https://latexdiffcite.readthedocs.org`

git-latexdiff (lead author: Matthieu Moy) is a wrapper (bash script) around latexdiff that allows using it to diff two revisions of a LaTeXfile under git revision control Similar functionality is provided by `latexdiff-vc --git` with `--flatten` option included with this distribution but git-latexdiff allows more fine-grained control on various aspects. (Not to be confused with latexdiff-git, which is normally installed as a soft link to latexdiff-vc)
`https://gitlab.com/git-latexdiff/git-latexdiff`