

NAME

chklat – find problems in LaTeX text

SYNOPSIS

chklat [**-a**[**_****#b**]] [**-e**] [**-m***N*] [**-u**[**-A**]] [**-U**] file ...

DESCRIPTION

Chklat attempts to find nesting errors and other problems in LaTeX texts, and hopefully give better error messages than [pdf]latex(1). Its main task is to locate nesting mismatches in LaTeX texts, and give sensible error messages about them. Actually this is Mission Impossible: in ‘{...{...{...}...}...}’ there is no way of telling which of the ‘}’s is unmatched. And \$ being both an opener and a closer is another disaster. Additionally *chklat* tries to find missing backslashes (as in ‘**emph**{I mean it!}’, which prints ‘emphI mean it!’), and unterminated commands (as in ‘**the** \textdollar symbol’, which prints ‘the \$symbol’). The actions of the program can be fine-tuned by entries in the *.chklat* file.

The program imposes the following restrictions on the LaTeX text.

It recognizes two kinds of parenthesis pairs: ‘{’-‘}’, and ‘\begin{X}’-‘\end{X}’, for any label *X*; it applies serious effort to do a reasonable pairing up. The label *X* has to be present explicitly; the program fails on text in which the label is constructed on the fly (mainly in *\newcommand* text) and there is no reasonable way to correct this.

Short math mode is expected to be delineated explicitly by ‘\$’-‘\$’, ‘(’-‘\’, or ‘[’-‘\]’; it should nest properly inside ‘{’-‘}’ and ‘\begin{X}’-‘\end{X}’. Short math mode may include at most *N* newlines, to detect run-away segments of math mode; the default is *N*=1, but *N* can be set with the **-m***N* option. Long math mode, delineated by ‘\begin{math}’-‘\end{math}’, cannot nest.

Math mode (long or short) is the only place where unescaped ‘_’ and ‘^’ are allowed, and ‘#’ is allowed only in the combinations ‘##’ and ‘#[1-9]’. The **-aS** option can be used to lift this restriction partially, by specifying one or more of the characters ‘_’, ‘^’ and ‘#’ in *S*; or completely, by leaving *S* empty.

Chklat detects and reports LaTeX command calls terminated by blank space. This space is ignored by LaTeX, possibly causing ungainly output. The command \fi is a special case. The conditional clause it terminates may produce text, but *chklat* has no way of knowing that, so a \fi followed by blank space is reported. The blank space can be suppressed by specifying a ‘b’ in the *S* in the **-aS** option.

Chklat expects UTF8 input, and non-UTF8 characters are reported. Restriction to ASCII96 can be obtained with the **-A** option; unrestricted input can be allowed with the **-u** option.

Chklat reports UTF8 words (\equiv strings of more than one multi-byte UTF8 character) that are outside brace pairs. Such words are not well understood by LaTeX and will be broken at line ends in arbitrary places; macros like \mbox{} can prevent that. Only one message per line is given. An unprotected UTF8 word is not reported if it is followed by a \ on the same line, because words in tables are seldom broken at line ends.

This feature can be switched off with the **-U** option.

The .chklat file

Some commands, built-in or user-defined, have one or more parameters which may contain unescaped ‘_’ or ‘^’, for example because they contain file names or are passed into a math environment. Some packages define environments in which the normal LaTeX conventions do not hold, for example by allowing the % to be use unescaped. And commands that do not produce visible output need not be terminated by a non-space. These features require the checks done by *chklat* to be restricted; they can be specified in a *.chklat* file, which is to be placed in the directory in which *chklat* is called.

The format of each line in the *.chklat* file is

<key> <command> <optional parameter>

The following keys are defined:

mathenv

The <command> starts a math environment.

mathpar

The optional parameters of this <command> are not checked and the first N parameters are treated in math mode, where N is given as the <optional parameter>.

skipenv

The contents of the environment started by <command> are not checked.

skippar

The optional parameters and the first N parameters of this <command> are not checked, where N is given as the <optional parameter>.

blankOK

The <command> may be followed by space, tab, or newline.

The <command> must be given in full, including the backslash and possibly a name between ‘{’ and ‘}’. Note that a <command> may need more than one entry: a user-defined math environment `mymath` with 1 non-LaTeX parameter is specified by

```
mathenv      \begin{mymath}
skippar      \begin{mymath} 1
```

Empty lines and lines that start with a ‘%’ are ignored.

Special care must be taken when a command $C1$, which is specified in a **skippar** line, is passed as the N -th parameter to a command $C2$. The easiest way to prevent parameters to be skipped where there are none is to specify that the first N parameters of $C2$ be skipped.

EXIT CODE

Exit code 1 is returned when errors are found that (almost certainly) would prevent LaTeX from succeeding; this action is suppressed by the `-e` option. Exit code 2 is returned when `chklat` gives up, due to buffer overflow, too many warnings and errors, etc.

FILES

`.chklat`

AUTHOR

Dick Grune, dick@dickgrune.com, Amsterdam area.

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