LaTeX Command Summary

This listing contains short descriptions of the control sequences that are likely to be handy for users of LaTeX v2.09 layered on TeX v2.0. Some of these commands are LaTeX macros, while others belong to plain TeX; no attempt to differentiate them is made.

`\␣` — ordinary space after period.

`\!` — negative thin space $= -\frac{1}{6}$ quad; `xx\!x` yields $xx\!x$ (math mode).

`\"` makes an umlaut, as ö.

`\#` prints a pound sign: #.

`\$` prints a dollar sign: $.

`\%` prints a percent sign: %.

`\&` prints an ampersand: &.

`\'` in `tabbing` environment moves current column to the right of the previous column. Elsewhere, acute accent, as ó.

`\(` — start math mode. Same as `\begin{math}` or `$`.

`\)` — end math mode. Same as `\end{math}` or `$`.

`\*` is a discretionary multiplication sign, at which a line break is allowed.

`\+` moves left margin to the right by one tab stop. Begin tabbed line.

`\,` — thin space $= \frac{1}{6}$ quad; `xx\,x` yields $xx\,x$. It is not restricted to math mode.

`\-` in `tabbing` environment, moves left margin to the left by one tab stop. Elsewhere, optional hyphenation.

`\.` puts a dot accent over a letter, as ȯ.

`\/` inserts italics adjustment space.

`\:` — medium space $= \frac{2}{9}$ quad; `xx\:x` yields $xx\:x$ (math mode).

`\;` — thick space $= \frac{5}{18}$ quad; `xx\;x` yields $xx\;x$ (math mode).

`\<` in `tabbing` environment, puts text to left of local left margin.

`\=` in `tabbing` environment, sets a tab stop. Elsewhere, makes a macron accent, as ō.

`\>` in `tabbing` environment is a forward tab. Otherwise, medium space $= \frac{2}{9}$ quad (math mode).

`\@` declares the period that follows is to be a sentence-ending period.

`\[` — same as `\begin{displaymath}` or `$$`.

`\\` terminates a line.

`\\*` terminates a line, but disallows a pagebreak.

`\]` — same as `\end{displaymath}` or `$$`.

`\^` makes a circumflex, as ô.

`\_` is an underscore, as in *hours_worked*.

`` \` `` in `tabbing` environment moves all text which follows (up to `\\`) to the right margin. Elsewhere, grave accent , as ò.

`\{` prints a curly left brace: {.

`\|` is $\|$ (math mode).

`\}` prints a curly right brace: }.

`\~` makes a tilde, as ñ.

`\a'` makes an acute accent in `tabbing` environment, as ó.

`` \a` `` makes a grave accent in `tabbing` environment, as ò.

`\a=` makes a macron accent in `tabbing` environment, as ō.

`\aa` is å. `\AA` is Å.

`\acute` makes an acute accent: $\acute{a}$ (math mode).

`\addcontentsline{toc}{section}{name}` adds the command `\contentsline{section}{name}` to the `.toc` file.

`\address{text}` declares the return address in the `letter` document style.

`\addtocontents{toc}{text}` writes `text` to the `.toc` file.

`\addtocounter{name}{amount}` adds `amount` to counter `name`.

`\addtolength{\nl}{length}` adds `length` to length command `\nl`. See also `\setlength`, `\newlength`, `\settowidth`.

`\ae` is æ. `\AE` is Æ.

`\aleph` is $\aleph$ (math mode).

`\alph{counter}` prints `counter` as lower-case letters. `\Alph{counter}` prints upper-case letters.

`\alpha` is α (math mode).

`\amalg` is $\amalg$ (math mode).

`\and` separates multiple authors for the `\maketitle` command.

`\angle` is $\angle$ (math mode).

`\appendix` starts appendices.

`\approx` is $\approx$ (math mode).

`\arabic{counter}` prints `counter` as arabic numerals 1, 2, etc.

`\arccos` is arccos (math mode).

`\arcsin` is arcsin (math mode).

\arctan is arctan (math mode).

\arg is arg (math mode).

\arraycolsep — width of the space between columns in an array environment.

\arrayrulewidth — width of the rule created in tabular or array environment by |, \hline, or \vline.

\arraystretch — scale factor for interrow spacing in array and tabular environments.

\ast is $*$ (math mode).

\asymp is $\asymp$ (math mode).

\author{names} declares author(s) for the \maketitle command.

\b is a "bar-under" accent, as o̲.

\backslash is $\backslash$ (math mode).

\bar puts a macron over a letter: $\bar{a}$ (math mode).

\baselineskip — distance from bottom of one line of a paragraph to bottom of the next line.

\baselinestretch — factor by which \baselineskip is multiplied each time a type size changing command is executed.

\begin{*environment*} — always paired with \end{*environment*}. Following are the assorted environments.

\begin{abstract} starts an environment for producing an abstract.

\begin{array}{lrc} starts array environment with 3 columns, left-justified, right-justified, and centered. Separate columns with &, and end lines with \\. @{text} between l, r or c arguments puts text between columns.

\begin{center} starts an environment in which every line is centered. End lines with \\.

\begin{description} starts a labeled list. Items are indicated by \item[label].

\begin{displaymath} sets mathematics on lines of its own. Same as \[or $$.

\begin{document} starts the actual text of a document. Required.

\begin{enumerate} starts a numbered list.

\begin{eqnarray} starts a displaymath environment in which more than one equation can be accommodated. Separate equations with \\ or *; use \nonumber to suppress numbering a particular equation.

\begin{eqnarray*} begins an environment like the eqnarray environment except that the equations aren't numbered.

\begin{equation} starts a displaymath environment and adds an equation number.

\begin{figure}[pos] begins a floating environment, which may be optionally placed at pos (see positions on page 8). Document styles report and article use the default tbp.

\begin{figure*}[pos] begins a two-column-wide figure. See \begin{figure}.

\begin{flushleft} starts environment with ragged right-hand margin. Separate lines with \\. See \raggedright.

\begin{flushright} starts environment with ragged left-hand margin. Separate lines with \\. See \raggedleft.

\begin{itemize} starts a "bulleted" (•) list. Start each item with \item.

\begin{list}{labeling}{spacing} starts a general list environment. labeling specifies how items are labeled when \item has no argument. spacing is an optional list of spacing parameters.

\begin{math} starts a math display like this: $x^2 + y^2$, within text. Same as $ or \(.

\begin{minipage}[pos]{vsize} starts a box of height vsize. Text will be positioned according to pos (see positions on page 8).

\begin{picture}$(x, y)(x_l, y_l)$ starts a picture environment whose width is x units, height is y units, and lower-left corner is the point (x_l, y_l). Set units with \unitlength.

\begin{quotation} starts an environment with wider margins, normal paragraph indenting, and offset from the text at top and bottom.

\begin{quote} starts an environment with wider margins, no paragraph indenting, and offset from the text at top and bottom.

\begin{tabbing} starts a columnar environment. Use commands \= (set tab), \> (tab), \< (backtab), \+ (indent one tab stop), \- (outdent one tab stop), \` (flush right), \' (flush left), \pushtabs, \poptabs, \kill, \\.

\begin{table}[pos] begins a floating environment, which may be optionally placed at pos (see positions on page 8). Document styles report and article use the default tbp.

\begin{table*}[pos] begins a two-column-wide table. See \begin{table}.

\begin{tabular}{arg} starts an array environment which can be used in or out of math mode. arg contains column text positioning commands r, l, c, @{...}, p{length} (see positions on page 8). | produces vertical line between columns. *{7}{r|l|} repeats that entry 7 times.

\begin{theorem} — see \newtheorem.

\begin{titlepage} is an environment with no page number, and causes following page to be numbered “1”.

\begin{verbatim} starts an environment which will be typeset exactly as you type it, carriage returns and all, usually in typewriter font.

\begin{verse} starts an environment for poetry with wider margins, no paragraph indenting, and ragged right margin.

\beta is β (math mode).

\bf switches to **bold face** type.

\bibitem{ref} text creates a bibliography entry text, numbers it, and labels it with reference label ref.

\bibliography{file} — insert bibliography from file name.bib at this point in text.

\bibliographystyle{style} — a format specifier, like \documentstyle.

\bigcap is $\bigcap$ (math mode).

\bigcirc is $\bigcirc$ (math mode).

\bigcup is $\bigcup$ (math mode).

\bigodot is $\bigodot$ (math mode).

\bigoplus is $\bigoplus$ (math mode).

\bigotimes is $\bigotimes$ (math mode).

\bigtriangledown is $\bigtriangledown$ (math mode).

\bigtriangleup is $\bigtriangleup$ (math mode).

\bigskip — standard “big” vertical skip.

\bigskipamount — default length for \bigskip.

\bigsqcup is $\bigsqcup$ (math mode).

\biguplus is $\biguplus$ (math mode).

\bigvee is $\bigvee$ (math mode).

\bigwedge is $\bigwedge$ (math mode).

\bmod is binary modulo expression $u \bmod m$ (math mode).

\boldmath changes math italics and math symbols to boldface. Should be used *outside* of math mode.

\bot is $\bot$ (math mode).

\bottomfraction — maximum fraction of page occupied by floats at the bottom.

\bowtie is $\bowtie$ (math mode).

\Box is $\Box$ (math mode).

\breve makes a breve accent: $\breve{a}$ (math mode).

\bullet is $\bullet$ (math mode).

\c is a cedilla, as ç.

\cal produces calligraphic letters, as $\mathcal{B}$ (math mode).

\cap is $\cap$ (math mode).

\caption[loftitle]{text} creates a numbered caption in a figure or table environment. Optional loftitle contains entry for the list of figures if different from text.

\cc{text} declares list of copy recipients for letter document style.

\cdot is $\cdot$ (math mode).

\cdots makes three dots centered on the line: $\cdots$ (cf. \ldots) (math mode).

\centering declares that all text following is to be centered (cf. \begin{center}).

\chapter[toctitle]{text} begins a new section, automatically headed and numbered. Optional toctitle contains entry for the table of contents if different from text.

\chapter*{title} is like \chapter{title}, but adds no chapter number or table of contents entry.

\check makes a háček, as $\check{a}$ (math mode).

\chi is χ (math mode).

\circ is $\circ$ (math mode).

\circle{diameter} as a valid argument for \put in a picture environment, draws a circle.

\circle*{diameter} is like \circle, but draws a solid circle.

\cite[subcit]{ref} produces a reference, in square brackets, to a bibliographic item created with \bibitem{ref}. Optional sub-citation subcit can be inserted in the entry.

\cleardoublepage forces next page to be a right-hand, odd-numbered page.

\clearpage ends a page where it is, and puts pending figures or tables on separate float pages with no text.

\cline{i-j} draws a horizontal line across columns i through j inclusive in array or tabular environments.

\closing{text} declares the closing in letter document style.

\clubsuit is $\clubsuit$ (math mode).

\columnsep — distance between columns in two-column text.

\columnseprule — width of the rule between columns on two-column pages.

\columnwidth — width of the current column. Equals \textwidth in single-column text.

\cong is $\cong$ (math mode).

\coprod is $\coprod$ (math mode).

\copyright is ©.

\cos is cos (math mode).

\cosh is cosh (math mode).

\cot is cot (math mode).

\coth is coth (math mode).

\csc is csc (math mode).

\cup is $\cup$ (math mode).

\d is a "dot under" accent, as ọ.

\dag is †.

\dagger is $\dagger$ (math mode).

\dashbox{dwid}(width,height)[pos]{text} creates a dashed rectangle around text in a picture environment. Dashes are dwid units wide; dimensions of rectangle are width and height; text is positioned at optional pos (see positions on page 8).

\dashv is $\dashv$ (math mode).

\date{adate} declares the date for the \maketitle command. The default is \today.

\day — current day of the month.

\dblfloatpagefraction — minimum fraction of a float page that must be occupied by floats, for two-column float pages.

\dblfloatsep — distance between floats at the top or bottom of a two-column float page.

\dbltextfloatsep — distance between double-width floats at the top or bottom of a two-column page and the text on that page.

\dbltopfraction — maximum fraction at the top of a two-column page that may be occupied by floats.

\ddag is ‡.

\ddagger is $\ddagger$ (math mode).

\ddot makes a dieresis over a letter: $\ddot{a}$ (math mode).

\ddots produces a diagonal ellipsis $\ddots$ (math mode).

\deg is deg (math mode).

\delta is δ. \Delta is Δ (math mode).

\det is det (math mode).

\diamond is $\diamond$. \Diamond is $\Diamond$ (both math mode).

\diamondsuit is $\diamondsuit$ (math mode).

\dim is dim (math mode).

\displaystyle switches to displaymath or equation environment typesetting (math mode).

\div is $\div$ (math mode).

\documentstyle[substy]{sty} determines default font, headings, etc., for document of style sty (and optional substyle substy). Styles: article, book, letter, report, slides. Substyles: 11pt, 12pt, acm, draft, fleqn, leqno, twocolumn, twoside.

\dot makes a dot over a letter: $\dot{a}$ (math mode).

\doteq is $\doteq$ (math mode).

\dotfill expands to fill horizontal space with row of dots.

\doublerulesep — horizontal distance between vertical rules created by || in tabular or array environment.

\downarrow is $\downarrow$. \Downarrow is $\Downarrow$ (math mode).

\ell is ℓ (math mode).

\em toggles between roman and *italic* fonts for *emphasis*.

\emptyset is $\emptyset$ (math mode).

\encl{text} declares a list of enclosures for letter document style.

\end{*environment*} ends an environment begun by \begin{*environment*} (q.v.).

\epsilon is ϵ (math mode).

\equiv is $\equiv$ (math mode).

\eta is η (math mode).

\evensidemargin — distance between left side of page and text's normal left margin, for even-numbered pages in two-sided printing.

\exists is $\exists$ (math mode).

\exp is exp (math mode).

\fbox{text} makes a $\boxed{\text{framed box}}$ around text.

\fboxrule — thickness of ruled frame for \fbox and \framebox.

\fboxsep — space between frame and text for \fbox and \framebox.

\fill — rubber length (glue) that can stretch to arbitrary length. Usually used to justify text a particular way.

\flat is $\flat$ (math mode).

\floatpagefraction — minimum fraction of a float page occupied by floats.

\floatsep — distance between floats that appear at the top or bottom of a text page.

\flushbottom causes pages to be stretched to \textheight.

\fnsymbol{counter} prints counter as one of the set of "footnote symbols". counter must be less than 10.

`\footheight` — height of box at bottom of page that holds page number.

`\footnote{text}` creates a footnote of `text`.

`\footnotemark` puts a footnote number into the text.

`\footnotesep` — height of strut placed at beginning of footnote.

`\footnotesize` switches to footnote-sized type.

`\footskip` — vertical distance between bottom of last line of text and bottom of page footing.

`\footnotetext{text}` specifies the text for a footnote which was indicated by a `\footnotemark`.

`\forall` is $\forall$ (math mode).

`\frac{numerator}{denominator}` produces a fraction in `math` environments.

`\frame{text}` makes a framed (outlined) box around `text`, with no margin between the text and the frame.

`\framebox[size][pos]{text}` produces a $\boxed{\text{framed box}}$ of dimension `size` containing `text`, optionally positioned `l` or `r`. In `picture` environment, `\framebox(width,height)[pos]{text}` creates a rectangle around `text`; dimensions of rectangle are `width` and `height`; text is positioned at optional `pos` (see `positions` on page 8).

`\frown` is $\frown$ (math mode).

`\fussy` is the default declaration for the line-breaking algorithm (cf. `\sloppy`).

`\gamma` is γ. `\Gamma` is Γ (math mode).

`\gcd` is gcd (math mode).

`\ge` is $\geq$ (math mode).

`\geq` is $\geq$ (math mode).

`\gets` is $\leftarrow$ (math mode).

`\gg` is $\gg$ (math mode).

`\glossary{text}` appends `text` to the `.glo` file by writing a `\glossaryentry` command.

`\glossaryentry{text}{ref}` is written to the `.glo` file for `\glossary{text}` occurring at reference `ref`.

`\grave` makes a grave accent: $\grave{a}$ (math mode).

`\H` prints a long Hungarian umlaut, as ő.

`\hat` makes a circumflex: $\hat{a}$ (math mode).

`\hbar` is $\hbar$ (math mode).

`\headheight` — height of box at top of page that holds running head.

`\headsep` — vertical distance between bottom of head and top of text.

`\heartsuit` is $\heartsuit$ (math mode).

`\hfill` is `\hspace{\fill}` (cf. `\fill`).

`\hline` draws a horizontal line across all columns of a `tabular` or `array` environment.

`\hom` is hom (math mode).

`\hookleftarrow` is $\hookleftarrow$ (math mode).

`\hookrightarrow` is $\hookrightarrow$ (math mode).

`\hrulefill` expands to fill horizontal space with horizontal rule.

`\hspace{len}` leaves a horizontal space of dimension `len`.

`\hspace*{len}` is like `\hspace{len}` but space is not removed at the beginning or end of a line.

`\huge` switches to a very large typeface. `\Huge` is even bigger.

`\hyphenation{wordlist}` declares hyphenation as indicated; `wordlist` contains words separated by spaces, with hyphens indicated (e.g. "`aard-vark cal-i-bra-tion`").

`\i` is ı.

`\iff` is $\iff$ (math mode).

`\Im` is $\Im$ (math mode).

`\imath` is $\imath$ (math mode).

`\in` is $\in$ (math mode).

`\include{filename}` brings in `filename` text at that point.

`\includeonly{file1,file2,...}` limits recognition of `\include` files.

`\index{text}` appends `text` to the `.idx` file by writing an `\indexentry` command.

`\indexentry{text}{ref}` is written to the `.idx` file for `\index{text}` occurring at reference `ref`.

`\indexspace` puts blank space before first index entry starting with a new letter.

`\inf` is inf (math mode).

`\infty` is ∞ (math mode).

`\input{file}` brings in text from `file.tex` at that point.

`\int` is $\int$ (math mode).

`\intextsep` — vertical space placed above and below float in middle of text.

`\iota` is ι (math mode).

`\it` switches to *Italic* type.

`\item[text]` indicates a list entry. `text` is optional, used in `description` environment.

\itemindent — extra indentation before label in list item. Default is 0mm.

\itemsep — vertical space between successive list items.

\j is ȷ.

\jmath is $\jmath$ (math mode).

\Join is $\Join$ (math mode).

\kappa is κ (math mode).

\ker is $\ker$ (math mode).

\kill — in a \tabbing environment, deletes previous line so tabs can be set without outputting text.

\l is ł. \L is Ł.

\label{text} provides a reference point that is accessed with \ref{text} or \pageref{text}.

\labelwidth — width of box containing list item label.

\labelsep — space between box containing list item label and text of the item.

\lambda is λ. \Lambda is Λ (math mode).

\land is $\land$ (math mode).

\langle is $\langle$ (math mode).

\large, \Large, and \LARGE switch to successively larger than \normalsize type sizes.

\LaTeX produces the LaTeX logo.

\lbrace is $\lbrace$ (math mode).

\lbrack is $\lbrack$ (math mode).

\lceil is $\lceil$ (math mode).

\ldots makes three dots at the base of the line: ... (cf. \cdots).

\le is $\le$ (math mode).

\leadsto is $\leadsto$ (math mode).

\left* (where * is a delimiter) must be paired with \right* (not necessarily using the same delimiter). '.' acts as a null delimiter (math mode).

\leftarrow is $\leftarrow$. \Leftarrow is $\Leftarrow$ (math mode).

\lefteqn{formula} is used in the eqnarray environment to break a long formula across lines.

\leftharpoondown is $\leftharpoondown$ (math mode).

\leftharpoonup is $\leftharpoonup$ (math mode).

\leftmargin, in list environment, horizontal distance between left margin of enclosing environment and left margin of list. Settable for nesting levels 1 through 6, as \leftmargini through \leftmarginvi.

\leftrightarrow is $\leftrightarrow$. \Leftrightarrow is $\Leftrightarrow$ (math mode).

\leq is $\leq$ (math mode).

\lfloor is $\lfloor$ (math mode).

\lg is $\lg$ (math mode).

\lhd is $\lhd$ (math mode).

\lim is $\lim$ (math mode).

\liminf is $\liminf$ (math mode).

\limsup is $\limsup$ (math mode).

\line(x,y){len} in picture environment, in \put command, draws line from \put argument with length len and slope (x,y).

\linebreak[n] forces a line to break exactly at this point, and adjusts line just terminated (cf. newline). n is optional: 0 is an optional break, 4 is a mandatory break, 1, 2 and 3 are intermediate levels of insistence.

\linethickness{dimen} sets the thickness for all lines in a picture.

\linewidth is the width of the current line in a paragraph.

\listoffigures begins a list of figures with heading.

\listoftables begins a list of tables with heading.

\listparindent — extra indentation added to first line of every paragraph of an item after the first, in list environment.

\ll is $\ll$ (math mode).

\ln is $\ln$ (math mode).

\lnot is $\lnot$ (math mode).

\log is $\log$ (math mode).

\longleftarrow is $\longleftarrow$. \Longleftarrow is $\Longleftarrow$ (math mode).

\longleftrightarrow is $\longleftrightarrow$. \Longleftrightarrow is $\Longleftrightarrow$ (math mode).

\longmapsto is $\longmapsto$ (math mode).

\longrightarrow is $\longrightarrow$. \Longrightarrow is $\Longrightarrow$ (math mode).

\lor is $\lor$ (math mode).

\lq is a left-quote: '.

\makebox[size][pos]{text} creates a box of dimension size containing text at optional pos. \makebox(width,height)[pos]{text} puts text in a box; dimensions of box are width and height; text is positioned at optional pos (see positions on page 8).

\makeglossary enables writing of \glossaryentry commands to a .glo file.

\makeindex enables writing of \indexentry commands to a .idx file.

\maketitle produces a title with \title, \author, and, optionally, \date.

\mapsto is $\mapsto$ (math mode).

\marginpar{text} puts text in the margin as a note.

\marginparpush — minimum amount of vertical space between two marginal notes.

\marginparsep — horizontal space between margin and marginal note.

\marginparwidth — width of a marginal note.

\markboth{lhd}{rhd} defines the left-hand heading lhd and the right-hand heading rhd for the headings and myheadings page styles.

\markright{rhd} defines the right-hand heading rhd for the headings and myheadings page styles.

\max is max (math mode).

\mbox{text} places text into a horizontal box.

\medskip — standard "medium" vertical skip.

\medskipamount — default length for \medskip.

\mho is $\mho$ (math mode).

\mid is $\mid$ (math mode).

\min is min (math mode).

\mit is "math italic" as in $\mathit{\Pi}$ (math mode).

\models is $\models$ (math mode).

\month — current month of the year.

\mp is $\mp$ (math mode).

\mu is μ (math mode).

\multicolumn{noc}{fmt}{text} in tabular environment puts text across noc columns using positioning format fmt (c, r, l, and/or |).

\multiput$(x,y)(\Delta x,\Delta y)${n}{obj} is
\put$(x,y)${obj}
\put$(x+\Delta x,y+\Delta y)${obj}
...
\put$(x+(n-1)\Delta x,y+(n-1)\Delta y)${obj}.

\nabla is ∇ (math mode).

\natural is $\natural$ (math mode).

\ne is $\neq$ (math mode).

\nearrow is $\nearrow$ (math mode).

\neg is $\neg$ (math mode).

\neq is $\neq$ (math mode).

\newcommand{\cs}[narg]{def} defines a new control sequence \cs with definition def. Optionally, narg is the number of arguments, indicated in def as #1, #2, etc.

\newcounter{counter}[name] defines a counter optionally to be zeroed whenever the name counter is incremented.

\newenvironment{envname}[narg]{def1}{def2} defines a new environment, optionally with some number of arguments narg. def1 is executed when the environment in entered and def2 is executed when it is exited.

\newfont{cs}{name} defines a control sequence \cs that chooses the font name.

\newlength{\nl} sets up \nl as a length of 0in. See also \setlength, \addtolength, \settowidth.

\newline breaks a line right where it is, with no stretching of terminated line (cf. \linebreak).

\newpage ends a page where it appears. (cf. \clearpage).

\newsavebox{\binname} declares a new bin to hold a \savebox.

\newtheorem{env}[env2]{label}[sectyp] defines a new theorem environment env (optionally with the same numbering scheme as environment env2) with labels label. Optionally, theorem numbers can be related to document section sectyp.

\ni is $\ni$ (math mode).

\nofiles suppresses writing of auxiliary files .idx, .toc, etc.

\noindent suppresses indentation of first line of paragraph.

\nolinebreak[n] prevents a line break at that point (cf. \linebreak on page 6).

\nonumber is used in an eqnarray environment to suppress equation numbering.

\nopagebreak[n] prevents a page break at that point (cf. \linebreak on page 6).

\normalmarginpar is default declaration for placement of marginal notes (cf. \reversemarginpar).

\normalsize is the default type size for the document.

\not puts a slash through a relational operator: \not= is $\neq$ (math mode).

\notin is $\notin$ (math mode).

\nu is ν (math mode).

\nwarrow is $\nwarrow$ (math mode).

\o is ø. \O is Ø.

\obeycr makes embedded carriage returns act like line terminators.

`\oddsidemargin` — distance between left side of page and text's normal left margin.

`\odot` is $\odot$ (math mode).

`\oe` is œ. `\OE` is Œ.

`\oint` is $\oint$ (math mode).

`\omega` is ω. `\Omega` is Ω (math mode).

`\ominus` is $\ominus$ (math mode).

`\onecolumn` sets text in single column (default) (cf. `\twocolumn`.

`\opening{text}` declares an opening for `letter` document style.

`\oplus` is $\oplus$ (math mode).

`\oslash` is $\oslash$ (math mode).

`\otimes` is $\otimes$ (math mode).

`\oval(x,y)` as an argument to `\put` draws an oval x units wide and y units high.

`\overbrace{text}` gives $\overbrace{text}$ (math mode).

`\overline{text}` gives $\overline{text}$ (math mode).

`\owns` is $\ni$ (math mode).

`\P` is ¶.

`\pagebreak[n]` forces a page break at that point (cf. `\linebreak` on page 6).

`\pagenumbering{style}` determines page number style; `style` may be `arabic` (3), `roman` (iii), `Roman` (III), `alph` (c), `Alph` (C).

`\pageref{text}` is the page number on which `\label{text}` occurs.

`\pagestyle{sty}` determines characteristics of a page's head and foot. `sty` may be `plain` (page number only), `empty` (no page number), `headings` (running headings on each page), `myheadings` (user headings).

`\paragraph[toctitle]{text}` begins a new paragraph, automatically headed and numbered. Optional `toctitle` contains entry for the table of contents if different from `text`.

`\paragraph*{text}` begins a paragraph and prints a title, but doesn't include a number or make a table of contents entry.

`\parallel` is $\parallel$ (math mode).

`\parbox[pos]{size}{text}` is a box created in paragraph mode. `text` is positioned optionally at `pos` (see `positions` on page 8). Width is `size`.

`\parindent` — horizontal indentation added at beginning of paragraph.

`\parsep` — extra vertical space between paragraphs within a list item.

`\parskip` — extra vertical space between paragraphs, normally.

`\part[toctitle]{text}` begins a new part, automatically headed and numbered. Optional `toctitle` contains entry for the table of contents if different from `text`.

`\part*{text}` begins a part and prints a title, but doesn't include a number or make a table of contents entry.

`\partial` is ∂ (math mode).

`\partopsep` — extra vertical space added before first list item if environment starts a new paragraph.

`\perp` is $\perp$ (math mode).

`\phi` is ϕ. `\Phi` is Φ (math mode).

`\pi` is π. `\Pi` is Π (math mode).

`\pm` is $\pm$ (math mode).

`\pmod{modulus}` is "parenthesized" modulo expression $u \pmod{2^{e_j} - 1}$ (math mode).

`\poptabs` undoes the previous `\pushtabs` command (restore prior tab settings).

`positions`, for boxing commands: `t`=top, `b`=bottom, `h`=here, `l`=left, `c`=center, `r`=right, `p`=new page (`figure` environment), `p`=parbox (`tabular` environment).

`\pounds` is £.

`\Pr` is $\Pr$ (math mode).

`\prec` is $\prec$ (math mode).

`\preceq` is $\preceq$ (math mode).

`\prime` is $\prime$ (math mode).

`\prod` is $\prod$ (math mode).

`\propto` is $\propto$ (math mode).

`\protect` permits the use of "dangerous" commands in `@`-expressions, or in sectioning command and `\caption` arguments.

`\ps` in `letter` document style permits additional text after `\closing`.

`\psi` is ψ. `\Psi` is Ψ (math mode).

`\pushtabs` in `tabbing` environment lets you stack tab stop definitions. Undo with `\poptabs`.

`\put(x,y){stuff}` is the basic picture-drawing command. `(x,y)` is the *reference point*, whose meaning varies for different `stuff`. `stuff` may be anything that goes in an `\mbox`.

`\raggedbottom` causes pages to assume natural height.

`\raggedleft` declares all text that follows is to be flush against the right margin (cf. `\begin{flushright}`).

`\raggedright` declares all text that follows is to be flush against the left margin (cf. `\begin{flushleft}`).

`\raisebox{dim}[d2][d3]{text}` moves `text` up by `dim` (which may be negative). Optional `d2` makes system think that `text` extends `d2` above the baseline (and optionally `d3` below it).

`\rangle` is $\rangle$ (math mode).

`\rbrace` is $\}$ (math mode).

`\rbrack` is $]$ (math mode).

`\rceil` is $\rceil$ (math mode).

`\Re` is $\Re$ (math mode).

`\ref{text}` is the section number in which `\label{text}` occurs.

`\renewcommand{\cs}[narg]{def}` redefines an existing control sequence `\cs` with definition `def`. Optionally, `narg` is the number of arguments, indicated in `def` as `#1`, `#2`, etc.

`\renewenvironment{envname}[narg]{def1}{def2}` redefines an existing environment. See `\newenvironment`.

`\restorecr` undoes the `\obeycr` command (makes carriage return a space-producing character).

`\reversemarginpar` causes opposite margin to be used for marginal notes (e.g., left margin on odd-numbered pages).

`\rfloor` is $\rfloor$ (math mode).

`\rhd` is $\rhd$ (math mode).

`\rho` is ρ (math mode).

`\right*` (where `*` is a delimiter) must be paired with `\left*` (not necessarily using the same delimiter). '.' acts as a null delimiter (math mode).

`\rightarrow` is $\rightarrow$. `\Rightarrow` is $\Rightarrow$ (math mode).

`\rightharpoondown` is $\rightharpoondown$ (math mode).

`\rightharpoonup` is $\rightharpoonup$ (math mode).

`\rightleftharpoons` is $\rightleftharpoons$ (math mode).

`\rightmargin` — in `list` environment, horizontal distance between right margin of enclosing environment and right margin of list. Default `0in`.

`\rm` switches to Roman type.

`\roman{counter}` prints `counter` in lower-case roman numerals. `\Roman{counter}` prints upper-case roman numerals.

`\rq` is a right-quote: '.

`\rule[height]{length}{width}` makes a rectangular blob of ink `length` long, `width` wide, with optional `height` above baseline.

`\S` is §.

`\savebox{\binname}[width][pos]{text}` is exactly like `\makebox` (q.v.), but saves box definition in bin `\binname`. Access with `\usebox{\binname}`.

`\sbox{\binname}{text}` saves `text` in box `\binname` (see `\savebox`, above).

`\sc` switches to caps and small caps font.

`\scriptsize` switches subscript size type.

`\scriptstyle` switches to sub- or superscript-sized typesetting. `\scriptscriptstyle` switches to second-level (very small) sub- or superscript-sized typesetting (math mode).

`\searrow` is $\searrow$ (math mode).

`\sec` is sec (math mode).

`\section[toctitle]{text}` begins a new section, automatically headed and numbered. Optional `toctitle` contains entry for the table of contents if different from `text`.

`\section*{text}` begins a section, prints a title, but doesn't include a number or make a table of contents entry.

`\setcounter{counter}{value}` resets the value of `counter`.

`\setlength{\nl}{length}` sets value of length command `\nl` to `length`. See also `\addtolength`, `\newlength`, `\settowidth`.

`\setminus` is $\setminus$ (math mode).

`\settowidth{\nl}{text}` sets value of length command `\nl` to the width of `text`. See also `\setlength`, `\newlength`, `\addtolength`.

`\sf` switches to sans serif font.

`\sharp` is $\sharp$ (math mode).

`\shortstack[pos]{x\\yy\\zzz}` yields $\begin{array}{c}\text{x}\\\text{yy}\\\text{zzz}\end{array}$, a one-column tabular arrangement of its arguments. Optional `pos` can be `l` or `r` for text position.

`\sigma` is σ. `\Sigma` is Σ (math mode).

`\signature{text}` declares a signature for `letter` document style.

`\sim` is $\sim$ (math mode).

`\simeq` is $\simeq$ (math mode).

`\sin` is sin (math mode).

`\sinh` is sinh (math mode).

`\sl` switches to *slanted* typeface.

`\sloppy` relaxes the line-breaking algorithm to allow more or less distance between words. Default is `\fussy`.

`\small` switches to smaller than `normalsize` typeface.

`\smallint` is $\smallint$ (math mode).

`\smallskip` — standard "small" vertical skip.

`\smallskipamount` — default length for `\smallskip`.

`\smile` is $\smile$ (math mode).

`\spadesuit` is $\spadesuit$ (math mode).

`\sqcap` is $\sqcap$ (math mode).

`\sqcup` is $\sqcup$ (math mode).

`\sqrt[3]{arg}` is $\sqrt[3]{arg}$. `3` (root) is optional.

`\sqsubset` is $\sqsubset$ (math mode).

`\sqsubseteq` is $\sqsubseteq$ (math mode).

`\sqsupset` is $\sqsupset$ (math mode).

`\sqsupseteq` is $\sqsupseteq$ (math mode).

`\ss` is ß.

`\stackrel{stuff}{delim}` puts `stuff` above the `delimiter`; `\stackrel{f}{\longrightarrow}` yields $\stackrel{f}{\longrightarrow}$ (math mode).

`\star` is $\star$ (math mode).

`\stop` — type this if TeX stops with a `*` and no error message.

`\subparagraph[toctitle]{text}` begins a subparagraphs, automatically headed and numbered. Optional `toctitle` contains entry for the table of contents if different from `text`.

`\subparagraph*{text}` begins a subparagraph and prints a title, but doesn't include a number or make a table of contents entry.

`\subsection[toctitle]{text}`, `\subsubsection[toctitle]{text}` begin new subsections, automatically headed and numbered. Optional `toctitle` contains entry for the table of contents if different from `text`.

`\subsection*{text}`, `\subsubsection*{text}` begin subsections, but suppress section number and table of contents entry.

`\subset` is $\subset$ (math mode).

`\subseteq` is $\subseteq$ (math mode).

`\succ` is $\succ$ (math mode).

`\succeq` is $\succeq$ (math mode).

`\sum` is $\sum$ (math mode).

`\sup` is $\sup$ (math mode).

`\supset` is $\supset$ (math mode).

`\supseteq` is $\supseteq$ (math mode).

`\surd` is $\surd$ (math mode).

`\swarrow` is $\swarrow$ (math mode).

`\symbol{cc}` produces the symbol (glyph) character code `cc` in the current font.

`\t` prints a "tie-after" accent, as o͡o.

`\tabbingsep` — distance to left of a tab stop moved by `\'`.

`\tabcolsep` — half the width of the space between columns in `tabular` environment.

`\tableofcontents` produces a table of contents. A `.toc` file must have been generated during a previous LaTeX run.

`\tan` is $\tan$ (math mode).

`\tanh` is $\tanh$ (math mode).

`\tau` is τ (math mode).

`\TeX` produces the TeX logo.

`\textfloatsep` — distance between floats at the top or bottom of a single-column page and the text on that page.

`\textfraction` — minimum fraction of a text page that must contain text.

`\textheight` is the normal vertical dimension of the body of the page.

`\textstyle` switches to `math` environment typesetting (math mode).

`\textwidth` is the normal horizontal dimension of the body of the page.

`\thanks{footnote}` adds an acknowledgement footnote to an author's name used in a `\maketitle` command.

`\theta` is θ. `\Theta` is Θ (math mode).

`\thicklines` is an alternate line thickness for lines in a `picture` environment. See also `linethickness`.

`\thinlines` is the default declaration for line thicknesses in a `picture` environment. See `\thicklines`.

`\thinspace` is the proper space between single and double quotes, as in '\,".

`\thispagestyle{sty}` determines characteristics of head and foot for the current page only. Used to override `\pagestyle` (q.v.) temporarily.

`\tilde` makes a tilde, as: $\tilde{a}$ (math mode).

`\times` is $\times$ (math mode).

`\tiny` switches to a very small typeface.

`\title{text}` declares a document title for the `\maketitle` command.

`\to` is $\to$ (math mode).

`\today` generates today's date.

`\top` is $\top$ (math mode).

`\topfraction` — maximum fraction at the top of a single-column page that may be occupied by floats.

`\topmargin` — space between top of TeX page (1 inch from top of paper) and top of header.

`\topsep` — extra vertical space added before first list item and after last list item.

`\topskip` — minimum distance between top of page body to bottom of first line of text.

`\triangle` is $\triangle$ (math mode).

`\triangleleft` is $\triangleleft$ (math mode).

`\triangleright` is $\triangleright$ (math mode).

`\tt` switches to `typewriter` type.

`\twocolumn[text]` declares a two-column page, with optional full-page width heading `text`.

`\typein[\cs]{text}` displays `text` on the screen and waits for you to enter stuff which will be put in the document at that point. Optional control sequence `\cs` can be assigned the value of your input, to be used later.

`\typeout{text}` displays `text` on the screen and writes it to the `.lis` file.

`\u` prints a breve accent, as ŏ.

`\unboldmath` unemboldens math italics and math symbols. Should be used *outside* of math mode.

`\underbrace{text}` gives $\underbrace{text}$ (math mode).

`\underline{text}` gives <u>text</u> (math mode or not).

`\unitlength` — length of coordinate units for `picture` environment.

`\unlhd` is $\unlhd$ (math mode).

`\unrhd` is $\unrhd$ (math mode).

`\uparrow` is $\uparrow$. `\Uparrow` is $\Uparrow$ (math mode).

`\updownarrow` is $\updownarrow$. `\Updownarrow` is $\Updownarrow$ (math mode).

`\uplus` is $\uplus$ (math mode).

`\upsilon` is υ. `\Upsilon` is Υ (math mode).

`\usebox{\binname}` recalls box definition saved in box `\binname`.

`\usecounter{counter}` is used in a `list` environment to cause `counter` to be used to number the items.

`\v` prints a háček, as ǒ.

`\value{counter}` produces the numeric value of `counter`.

`\varepsilon` is ε (math mode).

`\varphi` is φ (math mode).

`\varpi` is ϖ (math mode).

`\varrho` is ϱ (math mode).

`\varsigma` is ς (math mode).

`\vartheta` is ϑ (math mode).

`\vdash` is $\vdash$ (math mode).

`\vdots` is $\vdots$ (math mode).

`\vec` puts a vector over a letter: $\vec{a}$ (math mode).

`\vector(x,y){len}` in `picture` environment, in `\put` command, draws vector from `\put` argument with length `len` and slope `(x,y)`, with arrowhead.

`\vee` is $\vee$ (math mode).

`\verb/text/` creates a local `verbatim` environment for `text`, printed in `typewriter` font. Note that `text` is *not* in curly braces; it is between two identical delimiters, neither of which appears in `text`.

`\verb*/text/` is like `\verb/text/`, but spaces print out as ␣.

`\vert` is $|$. `\Vert` is $\|$ (math mode).

`\vfill` is `\vspace{\fill}` (cf. `\fill`).

`\vspace{len}` leaves a vertical space of dimension `len`.

`\vspace*{len}` is like `\vspace{len}` but space is not removed at the beginning or end of a page.

`\wedge` is $\wedge$ (math mode).

`\widehat{arg}` is $\widehat{arg}$ (math mode).

`\widetilde{arg}` is $\widetilde{arg}$ (math mode).

`\wp` is $\wp$ (math mode).

`\wr` is $\wr$ (math mode).

`\xi` is ξ. `\Xi` is Ξ (math mode).

`\year` — current year (A.D.).

`\zeta` is ζ (math mode).

LaTeX typefaces

\rm	Roman
\it	*Italic*
\bf	**Boldface**
\sl	*Slanted*
\sf	Sans serif
\sc	Small Caps
\tt	Typewriter

Dimensions or lengths

pt	point (72.27 pt/in)
pc	pica (12 pt/pc)
in	inch
bp	big point (72 bp/in)
cm	centimeter (2.54 cm/in)
mm	millimeter (10 mm/cm)
dd	didôt point (1157 dd = 1238 pt)
cc	cicero (12 dd/cc)
sp	scaled point (65536 sp/pt)
em	font-dependent; "quad" width
ex	font-dependent; "x"-height

LaTeX environments

abstract	figure	quote
array	flushleft	tabbing
center	flushright	table
description	itemize	tabular
displaymath	list	theorem
enumerate	math	titlepage
eqnarray	minipage	verbatim
equation	picture	verse
	quotation	

Text-mode accents

ò	\`{o}	ō	\={o}	o͡o	\t{oo}
ó	\'{o}	ȯ	\.{o}	o̧	\c{o}
ô	\^{o}	ŏ	\u{o}	ọ	\d{o}
ö	\"{o}	ǒ	\v{o}	o̲	\b{o}
õ	\~{o}	ő	\H{o}		

National symbols

œ	\oe	å	\aa	ł	\l
Œ	\OE	Å	\AA	Ł	\L
æ	\ae	ø	\o	ß	\ss
Æ	\AE	Ø	\O		

Miscellaneous symbols

†	\dag	§	\S	©	\copyright
‡	\ddag	¶	\P	£	\pounds

Math-mode accents

$\hat{a}$	\hat{a}	$\dot{a}$	\dot{a}
$\check{a}$	\check{a}	$\ddot{a}$	\ddot{a}
$\tilde{a}$	\tilde{a}	$\breve{a}$	\breve{a}
$\acute{a}$	\acute{a}	$\bar{a}$	\bar{a}
$\grave{a}$	\grave{a}	$\vec{a}$	\vec{a}

Greek letters (math mode)

α	\alpha	ν	\nu
β	\beta	ξ	\xi
γ	\gamma	o	o
δ	\delta	π	\pi
ϵ	\epsilon	ρ	\rho
ζ	\zeta	σ	\sigma
η	\eta	τ	\tau
θ	\theta	υ	\upsilon
ι	\iota	ϕ	\phi
κ	\kappa	χ	\chi
λ	\lambda	ψ	\psi
μ	\mu	ω	\omega

ε	\varepsilon	ς	\varsigma
ϑ	\vartheta	φ	\varphi
ϱ	\varrho		

Γ	\Gamma	Σ	\Sigma
Δ	\Delta	Υ	\Upsilon
Θ	\Theta	Φ	\Phi
Λ	\Lambda	Ψ	\Psi
Ξ	\Xi	Ω	\Omega
Π	\Pi		

Binary operations (math mode)

$\pm$	\pm	$\cap$	\cap
$\mp$	\mp	$\cup$	\cup
$\setminus$	\setminus	$\uplus$	\uplus
$\cdot$	\cdot	$\sqcap$	\sqcap
$\times$	\times	$\sqcup$	\sqcup
$\ast$	\ast	$\triangleleft$	\triangleleft
$\star$	\star	$\triangleright$	\triangleright
$\diamond$	\diamond	$\wr$	\wr
$\circ$	\circ	$\bigcirc$	\bigcirc
$\bullet$	\bullet	$\bigtriangleup$	\bigtriangleup
$\div$	\div	$\bigtriangledown$	\bigtriangledown
$\lhd$	\lhd	$\rhd$	\rhd
$\vee$	\vee	$\odot$	\odot
$\wedge$	\wedge	$\dagger$	\dagger
$\oplus$	\oplus	$\ddagger$	\ddagger
$\ominus$	\ominus	$\amalg$	\amalg
$\otimes$	\otimes	$\unlhd$	\unlhd
$\oslash$	\oslash	$\unrhd$	\unrhd

Relations (math mode)

$\leq$	\leq	$\geq$	\geq
$\prec$	\prec	$\succ$	\succ
$\preceq$	\preceq	$\succeq$	\succeq
$\ll$	\ll	$\gg$	\gg
$\subset$	\subset	$\supset$	\supset
$\subseteq$	\subseteq	$\supseteq$	\supseteq
$\sqsubset$	\sqsubset	$\sqsupset$	\sqsupset
$\sqsubseteq$	\sqsubseteq	$\sqsupseteq$	\sqsupseteq
$\in$	\in	$\ni$	\ni
$\vdash$	\vdash	$\dashv$	\dashv
$\smile$	\smile	$\mid$	\mid
$\frown$	\frown	$\parallel$	\parallel
$\neq$	\neq	$\perp$	\perp
$\equiv$	\equiv	$\cong$	\cong
$\sim$	\sim	$\bowtie$	\bowtie
$\simeq$	\simeq	$\propto$	\propto
$\asymp$	\asymp	$\models$	\models
$\approx$	\approx	$\doteq$	\doteq
		$\Join$	\Join

Variable-sized symbols (math mode)

$\textstyle\sum$	$\displaystyle\sum$	\sum	$\textstyle\bigcap$	$\displaystyle\bigcap$	\bigcap
$\textstyle\prod$	$\displaystyle\prod$	\prod	$\textstyle\bigcup$	$\displaystyle\bigcup$	\bigcup
$\textstyle\coprod$	$\displaystyle\coprod$	\coprod	$\textstyle\bigsqcup$	$\displaystyle\bigsqcup$	\bigsqcup
$\textstyle\int$	$\displaystyle\int$	\int	$\textstyle\bigvee$	$\displaystyle\bigvee$	\bigvee
$\textstyle\oint$	$\displaystyle\oint$	\oint	$\textstyle\bigwedge$	$\displaystyle\bigwedge$	\bigwedge
$\textstyle\bigodot$	$\displaystyle\bigodot$	\bigodot	$\textstyle\bigotimes$	$\displaystyle\bigotimes$	\bigotimes
$\textstyle\bigoplus$	$\displaystyle\bigoplus$	\bigoplus	$\textstyle\biguplus$	$\displaystyle\biguplus$	\biguplus

Delimiters (math mode)

$($	(	$)$	)
$[$	[	$]$	]
$\{$	\{	$\}$	\}
$\lfloor$	\lfloor	$\rfloor$	\rfloor
$\lceil$	\lceil	$\rceil$	\rceil
$\langle$	\langle	$\rangle$	\rangle
$/$	/	$\backslash$	\backslash
$\vert$	\vert	$\Vert$	\Vert
$\uparrow$	\uparrow	$\Uparrow$	\Uparrow
$\downarrow$	\downarrow	$\Downarrow$	\Downarrow
$\updownarrow$	\updownarrow	$\Updownarrow$	\Updownarrow

"Log-like" functions (math mode)

\arccos	\csc	\ker	\min
\arcsin	\deg	\lg	\Pr
\arctan	\det	\lim	\sec
\arg	\dim	\liminf	\sin
\cos	\exp	\limsup	\sinh
\cosh	\gcd	\ln	\sup
\cot	\hom	\log	\tan
\coth	\inf	\max	\tanh

Arrows (math mode)

$\leftarrow$	`\leftarrow`	$\longleftarrow$	`\longleftarrow`
$\Leftarrow$	`\Leftarrow`	$\Longleftarrow$	`\Longleftarrow`
$\rightarrow$	`\rightarrow`	$\longrightarrow$	`\longrightarrow`
$\Rightarrow$	`\Rightarrow`	$\Longrightarrow$	`\Longrightarrow`
$\leftrightarrow$	`\leftrightarrow`	$\longleftrightarrow$	`\longleftrightarrow`
$\Leftrightarrow$	`\Leftrightarrow`	$\Longleftrightarrow$	`\Longleftrightarrow`
$\mapsto$	`\mapsto`	$\longmapsto$	`\longmapsto`
$\hookleftarrow$	`\hookleftarrow`	$\hookrightarrow$	`\hookrightarrow`
$\leftharpoonup$	`\leftharpoonup`	$\rightharpoonup$	`\rightharpoonup`
$\leftharpoondown$	`\leftharpoondown`	$\rightharpoondown$	`\rightharpoondown`
$\rightleftharpoons$	`\rightleftharpoons`	$\leadsto$	`\leadsto`
$\uparrow$	`\uparrow`	$\Updownarrow$	`\Updownarrow`
$\Uparrow$	`\Uparrow`	$\nearrow$	`\nearrow`
$\downarrow$	`\downarrow`	$\searrow$	`\searrow`
$\Downarrow$	`\Downarrow`	$\swarrow$	`\swarrow`
$\updownarrow$	`\updownarrow`	$\nwarrow$	`\nwarrow`

Miscellaneous symbols (math mode)

$\aleph$	`\aleph`	$\prime$	`\prime`
$\hbar$	`\hbar`	$\emptyset$	`\emptyset`
$\imath$	`\imath`	∇	`\nabla`
$\jmath$	`\jmath`	$\surd$	`\surd`
ℓ	`\ell`	$\top$	`\top`
$\wp$	`\wp`	$\bot$	`\bot`
$\Re$	`\Re`	$\|$	`|`
$\Im$	`\Im`	$\angle$	`\angle`
∂	`\partial`	$\triangle$	`\triangle`
∞	`\infty`	$\backslash$	`\backslash`
$\Box$	`\Box`	$\Diamond$	`\Diamond`
$\forall$	`\forall`	$\sharp$	`\sharp`
$\exists$	`\exists`	$\clubsuit$	`\clubsuit`
$\neg$	`\neg`	$\diamondsuit$	`\diamondsuit`
$\flat$	`\flat`	$\heartsuit$	`\heartsuit`
$\natural$	`\natural`	$\spadesuit$	`\spadesuit`
$\mho$	`\mho`		