\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 \( xxx \) (math mode).
\# 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 ö.
( — 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.
\%- in tabbing environment, moves left margin to the left by one tab stop. Otherwise, optional hyphenation.
\, thin space = \( \frac{1}{6} \) quad; \( xx\,x \) yields \( xxx \). It is not restricted to math mode.
\- in tabbing environment, moves left margin to the right of the previous column. Elsewhere, acute accent, as ö.
\( — start math mode. Same as \begin{math} or $.
\) — end math mode. Same as \end{math} or $.
\+ moves left margin to the right by one tab stop. Begin tabbed line.
\ . thin space = \( \frac{5}{18} \) quad; \( xx\.x \) yields \( xxx \) (math mode).
\} prints a curly right brace: }.\\* terminates a line, but disallows a pagebreak.
\| same as \end{displaymath} or $$.
\^ makes a circumflex, as ô.
\_ is an underscore, as in \begin{math} hours\_worked.\end{math}
\’ in tabbing environment moves all text which follows (up to \} to the right margin. Elsewhere, grave accent , as ö.
\{ prints a curly left brace: {.\\| is \| (math mode).
\} prints a curly right brace: }.
\- makes a tilde, as ~.
\a' makes an acute accent in tabbing environment, as ó.
\a' makes a grave accent in tabbing environment, as ô.
a= makes a macron accent in tabbing environment, as ö.
a is a. \AA is A.
acute makes an acute accent: \'{\acute{a}} (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).
\texttt{\textbackslash arctan} is \texttt{\textbackslash arctan} (math mode).
\texttt{\textbackslash arg} is \texttt{\textbackslash arg} (math mode).
\texttt{\textbackslash arraycolsep} — width of the space between columns in an \texttt{array} environment.
\texttt{\textbackslash arrayrulewidth} — width of the rule created in \texttt{tabular} or \texttt{array} environment by 1, \texttt{\hline}, or \texttt{\vline}.
\texttt{\textbackslash arraystretch} — scale factor for interrow spacing in \texttt{array} and \texttt{tabular} environments.
\texttt{\textbackslash ast} is * (math mode).
\texttt{\textbackslash asymp} \asymp (math mode).
\texttt{\textbackslash author\{names\}} declares author(s) for the \texttt{\maketitle} command.
\texttt{\textbackslash b} is a “bar-under” accent, as $\bar{a}$ (math mode).
\texttt{\textbackslash backslash} is \texttt{\textbackslash} (math mode).
\texttt{\textbackslash bar} puts a macron over a letter: $\bar{a}$ (math mode).
\texttt{\textbackslash baselineskip} — distance from bottom of one line of a paragraph to bottom of the next line.
\texttt{\textbackslash baselinestretch} — factor by which \texttt{baselineskip} is multiplied each time a type size changing command is executed.
\texttt{\begin{environment}} — always paired with \texttt{\end{environment}}. Following are the assorted environments.
\texttt{\begin{abstract}} starts an environment for producing an abstract.
\texttt{\begin{array}}\{lrc\} starts an array environment with 3 columns, left-justified, right-justified, and centered. Separate columns with \& and end lines with \texttt{\\@{\text}} between 1, \texttt{r} or \texttt{c} arguments puts \texttt{text} between columns.
\texttt{\begin{center}} starts an environment in which every line is centered. End lines with \texttt{\}.\texttt{$\emptyset\{\text\}$} between 1, \texttt{r} or \texttt{c} arguments puts \texttt{text} between columns.
\texttt{\begin{center}} starts an environment in which every line is centered. End lines with \texttt{\}.\texttt{$\emptyset\{\text\}$} between 1, \texttt{r} or \texttt{c} arguments puts \texttt{text} between columns.
\texttt{\begin{description}} starts a labeled list. Items are indicated by \texttt{\item\{label\}}.
\texttt{\begin{displaymath}} sets mathematics on lines of its own. Same as \texttt{\$} or \texttt{\$\$}.
\texttt{\begin{document}} starts the actual text of a document. Required.
\texttt{\begin{enumerate}} starts a numbered list.
\texttt{\begin{eqnarray}} starts a \texttt{displaymath} environment in which more than one equation can be accommodated. Separate equations with \texttt{\\ or \texttt{\\*; use \texttt{\nonumber} to suppress numbering a particular equation.
\texttt{\begin{equation}} begins an environment like the \texttt{eqnarray} environment except that the equations aren’t numbered.
\texttt{\begin{figure}} begins a floating environment, which may be optionally placed at \texttt{pos} (see \texttt{positions} on page 8). Document styles \texttt{report} and \texttt{article} use the default \texttt{tbp}.
\texttt{\begin{figure\*}}\{\texttt{pos}\} begins a two-column-wide figure. See \texttt{\begin{figure}}.
\texttt{\begin{flushleft}} starts environment with ragged right-hand margin. Separate lines with \texttt{\textbackslash}. See \texttt{\textbackslash raggedright}.
\texttt{\begin{flushright}} starts environment with ragged left-hand margin. Separate lines with \texttt{\textbackslash}. See \texttt{\textbackslash raggedleft}.
\texttt{\begin{itemize}} starts a “bulleted” (•) list. Start each item with \texttt{\item}.
\texttt{\begin{list}}\{\texttt{labeling}\}\{\texttt{spacing}\} starts a general list environment. \texttt{labeling} specifies how items are labeled when \texttt{\item} has no argument. \texttt{spacing} is an optional list of spacing parameters.
\texttt{\begin{math}} starts a math display like this: $x^2 + y^2$, within text. Same as $\$ or \texttt{\$}\$.\texttt{\$}$.
\texttt{\begin{minipage}}\{\texttt{pos}\}\{\texttt{vs}ize\} starts a box of height \texttt{vsize}. Text will be positioned according to \texttt{pos} (see \texttt{positions} on page 8).
\texttt{\begin{picture}}\{\texttt{x,y}\} starts a picture environment whose width is \texttt{x} units, height is \texttt{y} units, and lower-left corner is the point \texttt{(x,y)}. Set units with \texttt{\textbackslash unitlength}.
\texttt{\begin{quote}} starts an environment with wider margins, normal paragraph indenting, and offset from the text at top and bottom.
\texttt{\begin{quotation}} starts an environment with wider margins, no paragraph indenting, and offset from the text at top and bottom.
\texttt{\begin{tabbing}} starts a columnar environment. Use commands $l=$ (set tab), $s>$ (tab), $l<$ (backtab), $s+$ (indent one tab stop), $l-$ (outdent one tab stop), $l'$ (flush right), $s'$ (flush left), $\texttt{\textbackslash pushtabs}$, $\texttt{\textbackslash poptabs}$, $\texttt{\\kill}$, $\\textbackslash$.\texttt{\kill}$.
\texttt{\begin{table}}\{\texttt{pos}\} begins a floating environment, which may be optionally placed at \texttt{pos} (see \texttt{positions} on page 8). Document styles \texttt{report} and \texttt{article} use the default \texttt{tbp}.
\texttt{\begin{table\*}}\{\texttt{pos}\} begins a two-column-wide table. See \texttt{\begin{table}}.
\texttt{\begin{tabular}}\{\texttt{arg}\} starts an array environment which can be used in or out of math mode. \texttt{arg} contains column text positioning commands \texttt{r}, \texttt{l}, \texttt{c}, \texttt{$\emptyset\{\ldots\}$}, \texttt{p{length}} (see \texttt{positions} on page 8). \texttt{|} produces vertical line between columns. \texttt{\*\{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 “I”.
\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 \(\beta\) (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 \(\cap\) (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 is \(\bigskip\) (math mode).
\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 \(u \mod m\) (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 /\ (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 c.
\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.
\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 háck, as \(\check{a}\) (math mode).
\chi is \(\chi\) (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{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.
\clmwidth — 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 \textbackslash (math mode).
\d is \textbackslash dot under” accent, as o.\dots
\dag is y.
\dagger is y (math mode).
\dashbox{dwidth}(width,height)[pos]{text} creates a dashed rectangle around text in a picture environment. Dashes are dwidth units wide; dimensions of rectangle are width and height; text is positioned at optional pos (see positions on page 8).
\dashv is a (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 z.
\ddagger is z (math mode).
\ddot makes a dieresis over a letter: ¨ (math mode).
\ddots produces a diagonal ellipsis \ldots (math mode).
\deg is deg (math mode).
\delta is δ. \Delta is Α (math mode).
\det is det (math mode).
\diamond is ◊. \Diamond is ◊ (both math mode).
\diamondsuit is ◊ (math mode).
\dim is dim (math mode).
\displaystyle switches to displaymath or equation environment typesetting (math mode).
\div is ÷ (math mode).
\documentstyle{substy}{sty} determines default font, headings, etc., for document of style sty (and optional subtype substy).
\dot makes a dot over a letter: à (math mode).
\doteq is = (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 is ↓ (math mode).
\ell is ℓ (math mode).
\em toggles between roman and italic fonts for emphasis.
\emptyset is ∅ (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 = (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 ∃ (math mode).
\exp is \textbackslash exp (math mode).
\fbox{text} makes a 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 ♭ (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 framed box of dimension size containing text, optionally positioned l or r.

\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.

\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} 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 i.

\ iff is \iff (math mode).

\Im is \Im (math mode).

\imath is \imath (math mode).

\in is \in (math mode).

\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 \infty (math mode).

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

\item{text} indicates a list entry. text is optional, used in description environment.

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

\heartsuit is \heartsuit (math mode).

\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 i.

\iff is \iff (math mode).

\Im is \Im (math mode).

\imath is \imath (math mode).

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\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 \infty (math mode).

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

\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 \jmath (math mode).
\kappa is \kappa (math mode).
\ker is ker (math mode).
\kill is in \texttt{tabbing} environment, deletes previous line so tabs can be set without outputting text.
\l is \l, \L is \Large.
\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 \lambda.
\Lambda is \Lambda (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 \{ (math mode).
\lbrack is [ (math mode).
\lceil is \lceil (math mode).
\ldots makes three dots at the base of the line: \ldots (cf. \cdots).
\le is \le (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 \texttt{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 \texttt{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 rst line of every paragraph of an item after the rst, in list environment.
\ll is \ll (math mode).
\ln is \ln (math mode).
\lnot is :\lnot (math mode).
\log is \log (math mode).
\longleftrightarrow is !\longleftrightarrow.
\Longleftrightarrow is !\Longleftrightarrow (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 \texttt{positions} on page 8).
\makeglossary enables writing of \glossaryentry commands to a .glo file.
\leftarrow is \leftarrow. \Leftarrow is \Leftarrow (math mode).
\leq is \leq (math mode).
\lfloor is \lfloor (math mode).
\makebox(width,height)[pos]{text} puts text in a box; dimensions of box are width and height; text is positioned at optional pos (see \texttt{positions} on page 8).
\makeglossary enables writing of \glossaryentry commands to a .glo file.
\makeindex enables writing of \indexentry \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 $|$ (math mode).
\min is min (math mode).
\mit is “math italic” as in \mit (math mode).
\models is $\models$ (math mode).
\month — current month of the year.
\mp is $\mp$ (math mode).
\mu is $\mu$ (math mode).
\multicolumn{noc}{fmt}{text} in tabular environment puts text across noc columns using positioning format fmt (c, r, l, and/or |).
\multipart{x,y} {\Delta x, \Delta y} \{n\} \{obj\} is
\part{x,y} \{obj\}
\part{x+\Delta x, y+\Delta y} \{obj\}
\ldots
\part{x+(n-1)\Delta x, y+(n-1)\Delta y} \{obj\}.
\nabla is $\nabla$ (math mode).
\natural is $\natural$ (math mode).
\neg is $\neg$ (math mode).
\neq is $\neq$ (math mode).
\nearrow is $\nearrow$ (math mode).
\neg is $\neg$ (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 \eqarray 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 $\nu$ (math mode).
\narrow is $\narrow$ (math mode).
\o is $\circ$. \O is $\O$.
\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 \(\oe\). \OE is \(\OE\).
\oint is \(\oint\) (math mode).
\omega is \(\omega\). \Omega is \(\Omega\) (math mode).
\ominus is \(\ominus\) (math mode).
\oneside 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 \[text\] (math mode).
\overline{text} gives \[text\] (math mode).
\owns is \(\owns\) (math mode).
\\P is \(\P\).
\pagebreak[n] forces a page break at that point (cf. \linebreak on page 6).
\pagenumbering{style} determines page number style; \textit{style} may be \textit{arabic} (3), \textit{roman} (iii), \textit{Roman} (III), \textit{alph} (c), \textit{Alph} (C).
\pageref{text} is the page number on which \label{text} occurs.
\pagestyle{sty} determines characteristics of a page's head and foot. \textit{sty} may be \textit{plain} (page number only), \textit{empty} (no page number), \textit{headings} (running headings on each page), \textit{myheadings} (user headings).
\paragraph[toctitle]{text} begins a new paragraph, automatically headed and numbered. Optional \textit{toctitle} contains entry for the table of contents if different from \textit{text}.
\paragraph*{text} begins a paragraph and prints a title, but doesn’t include a number or make a table of contents entry.
\partial is \(\partial\) (math mode).
\part[toctitle]{text} begins a new part, automatically headed and numbered. Optional \textit{toctitle} contains entry for the table of contents if different from \textit{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 \(\partial\) (math mode).
\parskip — extra vertical space between paragraphs, normally.
\part[toctitle]{text} begins a new part, automatically headed and numbered. Optional \textit{toctitle} contains entry for the table of contents if different from \textit{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 \(\partial\) (math mode).
\partopsep — extra vertical space added before first list item if environment starts a new paragraph.
\perp is \(\perp\) (math mode).
\phi is \(\phi\). \Phi is \(\Phi\) (math mode).
\pi is \(\pi\). \Pi is \(\Pi\) (math mode).
\pmod{modulus} is \(u \pmod{2^e_j-1}\) (math mode).
\poptabs undoes the previous \pushtabs command (restore prior tab settings).
positions, for boxing commands: \(t=\text{top, b=bottom, h=here, l=left, c=center, r=right, p=new\ page (figure\ environment), p=parbox (tabular\ environment)}\).
\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 \(\psi\). \Psi is \(\Psi\) (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 \textit{stuff}. \textit{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).

\range is \} (math mode).
\rbrace is \} (math mode).
\rbrack is \} (math mode).
\rceil is \} (math mode).
\rfloor is \} (math mode).
\rrbrace is \} (math mode).
\rhd is \} (math mode).
\rho is \) (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).
\rightharpoonup is \rightharpoonup (not necessarily using the same delimiter). \'.\) acts as a null delimiter (math mode).
\rightharpoondown is \rightharpoondown (math mode).
\rightsquigarrow is \rightsquigarrow (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 \S.
\savebox{\binname}[width]{pos}{text} is \savebox (q.v.), but saves box definition in bin \binname. Access with \usebox{\binname}.
\xbox{\binname}{text} saves text in box \binname (see \savebox, above).
\sc switch to caps and small caps font.
\scriptsize switch to subscript size type.
\scriptstyle switch to sub- or superscript-sized typesetting.
\scriptscriptstyle switch to sub- or superscript-sized typesetting (math mode).
\searrow is \searrow (math mode).
\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).
\setwidow{\nl}{text} sets value of length command \nl to the width of text. See also \setlength, \newlength, \addtolength.
\sf switch to sans serif font.
\sharp is \sharp (math mode).
\shortstack{pos}{x\y\y\z\z} yields zzz, a one-column tabular arrangement of its arguments. Optional pos can be l or r for text position.
\sigma is \sigma. \Sigma is \Sigma (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).
\texttt{\textbackslash small} switches to \textit{slanted} typeface.
\texttt{\textbackslash sloppy} relaxes the line-breaking algorithm to allow more or less distance between words. Default is \texttt{\textbackslash fussy}.
\texttt{\textbackslash small} switches to smaller than \texttt{\textbackslash normalsize} typeface.
\texttt{\textbackslash smallint} is \textbackslash f (math mode).
\texttt{\textbackslash smallskip} — standard “small” vertical skip.
\texttt{\textbackslash smallskipamount} — default length for \texttt{\textbackslash smallskip}.
\texttt{\textbackslash smile} is \textasciitilde{} (math mode).
\texttt{\textbackslash spadesuit} is \spadesuit{} (math mode).
\texttt{\textbackslash sqcap} is \textsf{u} (math mode).
\texttt{\textbackslash sqcup} is \textsf{t} (math mode).
\texttt{\textbackslash sqrt[n]{arg}} is \textbackslashmath{\sqrt[n]{arg}}. 3 (root) is optional.
\texttt{\textbackslash sqsubset} is \textless{} (math mode).
\texttt{\textbackslash sqsubseteq} is \textless{}= (math mode).
\texttt{\textbackslash sqsupset} is \textgreater{} (math mode).
\texttt{\textbackslash sqsupseteq} is \textgreater{}= (math mode).
\texttt{\textbackslash ss} is \textbackslashmath{\ss}.
\texttt{\textbackslash stackrel{stuff}{delim}} puts \hspace{stuff} above the delimiter; \texttt{\textbackslash stackrel{f}{\longrightarrow}} yields \textbackslashmath{f \rightarrow} (math mode).
\texttt{\textbackslash star} is \star{} (math mode).
\texttt{\textbackslash stop} — type this if \TeX{} stops with a * and no error message.
\texttt{\textbackslash subparagraph}[toctitle]{text} begins a subparagraphs, automatically headed and numbered. Optional \texttt{toctitle} contains entry for the table of contents if different from text.
\texttt{\textbackslash subparagraph*}{text} begins a subparagraph and prints a title, but doesn’t include a number or make a table of contents entry.
\texttt{\textbackslash subsection}[toctitle]{text}.
\texttt{\textbackslash subsubsection}[toctitle]{text} begin new subsections, automatically headed and numbered. Optional \texttt{toctitle} contains entry for the table of contents if different from text.
\texttt{\textbackslash subsection*}{text}, \texttt{\textbackslash subsubsection*}{text} begin subsections, but suppress section number and table of contents entry.
\texttt{\textbackslash subset} is \texttt{\textbackslash C} (math mode).
\texttt{\textbackslash subseteq} is \texttt{\textbackslash C} (math mode).
\texttt{\textbackslash succ} is \textgreater{} (math mode).
\texttt{\textbackslash succeq} is \textgreater{}= (math mode).
\texttt{\textbackslash sum} is \texttt{\textbackslashSigma} (math mode).
\texttt{\textbackslash sup} is \texttt{\textbackslashsup} (math mode).
\texttt{\textbackslash supset} is \texttt{\textbackslash C} (math mode).
\texttt{\textbackslash supseteq} is \texttt{\textbackslash C} (math mode).
\texttt{\textbackslash surd} is \texttt{\textbackslashsqrt} (math mode).
\texttt{\textbackslash swarrow} is \texttt{\textbackslashswarrow} (math mode).
\texttt{\textbackslash symbol{cc}} produces the symbol (glyph) character code \texttt{cc} in the current font.
\texttt{\textbackslash t} prints a “tie-after” accent, as \textasciitilde{O}.
\texttt{\textbackslash tabbingsep} — distance to left of a tab stop moved by \textbackslash\textbackslash{}.
\texttt{\textbackslash tabcolsep} — half the width of the space between columns in \texttt{\textbackslash tabular} environment.
\texttt{\textbackslash tableofcontents} produces a table of contents. A .toc file must have been generated during a previous \LaTeX{} run.
\texttt{\textbackslash tan} is \texttt{\textbackslash tan} (math mode).
\texttt{\textbackslash tanh} is \texttt{\textbackslash tanh} (math mode).
\texttt{\textbackslash tau} is \texttt{\textbackslashtau} (math mode).
\texttt{\textbackslash Tex} produces the \TeX{} logo.
\texttt{\textbackslash textfloatsep} — distance between floats at the top or bottom of a single-column page and the text on that page.
\texttt{\textbackslash texfraction} — minimum fraction of a text page that must contain text.
\texttt{\textbackslash textheight} is the normal vertical dimension of the body of the page.
\texttt{\textbackslash textstyle} switches to \texttt{\textbackslashmath} environment typesetting (math mode).
\texttt{\textbackslash textheight} is the normal horizontal dimension of the body of the page.
\texttt{\textbackslash thanks{footnote}} adds an acknowledgement footnote to an author’s name used in a \texttt{\maketitle} command.
\texttt{\textbackslash theta} is \texttt{\theta}.
\texttt{\textbackslash Theta} is \texttt{\Theta} (math mode).
\texttt{\textbackslash thicklines} is an alternate line thickness for lines in a \texttt{\textbackslash picture} environment. See also \texttt{\linethickness}.
\texttt{\textbackslash thinlines} is the default declaration for line thicknesses in a \texttt{\textbackslash picture} environment. See \texttt{\thicklines}.
\texttt{\textbackslash thispagestyle{sty}} determines characteristics of head and foot for the current page only. Used to override \texttt{\textbackslash pagestyle} (q.v.) temporarily.
\texttt{\textbackslash tilde} makes a tilde, as: \texttt{\textbackslashtilde{a}} (math mode).
\texttt{\textbackslash times} is \texttt{\times} (math mode).
\texttt{\textbackslash tiny} switches to a very small typeface.
\texttt{\textbackslash title{text}} declares a document title for the \texttt{\maketitle} command.
\texttt{\textbackslash to} is \texttt{\rightarrow} (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 $\Delta$ (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 o.
\unboldmath unemboldens math italics and math symbols. Should be used outside of math mode.
\underbrace{text} gives $\underbrace{text}$ (math mode).
\underline{text} gives text (math mode or not).
\unvfill 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.
\vfill is \vspace*{\fill} (cf. \fill).
\vfill expands to \vspace{\fill}.
\vline is | (math mode).
\varphi is $\varphi$ (math mode).
\varpi is $\varpi$ (math mode).
\varepsilon is $\varepsilon$ (math mode).
\varepsilon is $\varepsilon$. (math mode).
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\varepsilon is $\varepsilon$. (math mode.)
### \LaTeX{} typefaces
\begin{itemize}
  \item \texttt{\textbackslash rm} Roman
  \item \texttt{\textbackslash it} Italic
  \item \texttt{\textbackslash bf} Boldface
  \item \texttt{\textbackslash sl} Slanted
  \item \texttt{\textbackslash sf} Sans serif
  \item \texttt{\textbackslash sc} SMALL CAPS
  \item \texttt{\textbackslash tt} Typewriter
\end{itemize}

### Dimensions or lengths
\begin{itemize}
  \item pt point (72.27 pt/in)
  \item pc pica (12 pt/pc)
  \item in inch
  \item bp big point (72 bp/in)
  \item cm centimeter (2.54 cm/in)
  \item mm millimeter (10 mm/cm)
  \item dd didot point (1157 dd = 1238 pt)
  \item cc cicer (12 dd/cc)
  \item sp scaled point (65536 sp/pt)
  \item em font-dependent; “quad” width
  \item ex font-dependent; “x”-height
\end{itemize}

### \LaTeX{} environments
\begin{itemize}
  \item abstract \texttt{\textbackslash figure}\texttt{\textbackslash quote}
  \item array \texttt{\textbackslash flushleft}\texttt{\textbackslash tabbing}
  \item center \texttt{\textbackslash flushright}\texttt{\textbackslash table}
  \item description \texttt{\textbackslash itemize}\texttt{\textbackslash tabular}
  \item displaymath \texttt{\textbackslash list}\texttt{\textbackslash theorem}
  \item enumerate \texttt{\textbackslash math}\texttt{\textbackslash titlepage}
  \item eqnarray \texttt{\textbackslash minipage}\texttt{\textbackslash verbatim}
  \item equation \texttt{\textbackslash picture}\texttt{\textbackslash verse}
  \item quotation
\end{itemize}

### Text-mode accents
\begin{itemize}
  \item \texttt{\textbackslash o\textbackslash‘\{o\}} \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash oo \textbackslash t\{oo\}}
  \item \texttt{\textbackslash o\textbackslash‘\{o\}} \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash g \textbackslash c\{o\}}
  \item \texttt{\textbackslash o\textbackslash‘\{o\}} \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash g \textbackslash d\{o\}}
  \item \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash g \textbackslash b\{o\}}
  \item \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash o \textbackslash‘\{o\}} \texttt{\textbackslash H\{o\}}
\end{itemize}

### Greek letters (math mode)
\begin{itemize}
  \item \texttt{\textbackslash alpha} \texttt{\nu\nu}
  \item \texttt{\textbackslash beta} \texttt{\xi\xi}
  \item \texttt{\textbackslash gamma} \texttt{\omicron\omicron}
  \item \texttt{\textbackslash delta} \texttt{\pi\pi}
  \item \texttt{\textbackslash epsilon} \texttt{\rho\rho}
  \item \texttt{\textbackslash zeta} \texttt{\sigma\sigma}
  \item \texttt{\eta\eta}
  \item \texttt{\textbackslash theta} \texttt{\upsilon\upsilon}
  \item \texttt{\iota\iota}
  \item \texttt{\kappa\kappa}
  \item \texttt{\lambda\lambda}
  \item \texttt{\mu\mu}
  \item \texttt{\nu\nu}
  \item \texttt{\xi\xi}
\end{itemize}

### National symbols
\begin{itemize}
  \item \texttt{\oe}\texttt{\oe} \texttt{\aa}\texttt{\aa} \texttt{l}\texttt{l}
  \item \texttt{\OE}\texttt{\OE} \texttt{\AE}\texttt{\AE}
  \item \texttt{\ae}\texttt{\ae} \texttt{o}\texttt{o} \texttt{\ss}\texttt{\ss}
  \item \texttt{\OE}\texttt{\OE} \texttt{\OE}\texttt{\OE}
\end{itemize}

### Miscellaneous symbols
\begin{itemize}
  \item \texttt{\dag}\texttt{\dag}
  \item \texttt{\S}\texttt{\S}
  \item \texttt{\copyright}\texttt{\copyright}
  \item \texttt{\pounds}\texttt{\pounds}
\end{itemize}

### Math-mode accents
\begin{itemize}
  \item \texttt{\hat{a}} \texttt{\dot{a}}
  \item \texttt{\check{a}} \texttt{\ddot{a}}
  \item \texttt{\acute{a}} \texttt{\bar{a}}
  \item \texttt{\grave{a}} \texttt{\vec{a}}
\end{itemize}

### Greek letters (math mode)
\begin{itemize}
  \item \texttt{\Gamma\Gamma}
  \item \texttt{\Delta\Delta}
  \item \texttt{\Theta\Theta}
  \item \texttt{\Lambda\Lambda}
  \item \texttt{\Xi\Xi}
  \item \texttt{\Pi\Pi}
\end{itemize}

### National symbols
\begin{itemize}
  \item \texttt{\oe}{\oe}\texttt{\aa}{\aa}\texttt{l}{\l}
  \item \texttt{\OE}{\OE}\texttt{\AE}{\AE}
  \item \texttt{\ae}{\ae}\texttt{o}{\o}\texttt{\ss}{\ss}
  \item \texttt{\OE}{\OE}\texttt{\OE}{\OE}
\end{itemize}
Arrows (math mode)

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

Miscellaneous symbols (math mode)

\aleph \prime
\hbar \emptyset
\imath \nabla
\jmath \surd
\ell \top
\wp \bot
\Re \| \|
\im \angle
\partial \angle
\infty \backslash
\Box \Diamond
\forall \sharp
\exists \clubsuit
\neg \diamondsuit
\flat \heartsuit
\natural \spadesuit
\mho