

L^AT_EX Command Summary

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This listing contains short descriptions of the control sequences that are likely to be useful for users of L^AT_EX v2.08 layered on T_EX v1.3. Some of these commands are L^AT_EX macros, while others belong to plain T_EX; no attempt to differentiate them is made. We would appreciate hearing about errors in the list.

`\` — ordinary space after period.
`\!` — negative thin space quad; `xx\!x` yields `xxx` (math mode).X
`\"` 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 quad; `xx\,x` yields `xx.x`. It is not restricted to math mode.X
`\-` in `tabbing` environment, moves left margin to the left by one tab stop. Elsewhere, optional hyphenation.
`\.` puts a dot accent over a letter, as ô.
`\/` inserts italics adjustment space.
`\:` — medium space quad; `xx\:x` yields `xx:x` (math mode).X
`\;` — thick space quad; `xx\;x` yields `xx x` (math mode).X
`\<` in `tabbing` environment, puts text to left of local left margin.
`\=` in `tabbing` environment, sets a tab stop. Elsewhere, makes a macron accent, as ô.
`\>` in `tabbing` environment is a forward tab. Otherwise, medium space quad (math mode).X
`\@` declares that the period that follows 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: }.
`\~` prints a tilde, as ñ.
`\aa` is å. `\AA` is Å.
`\acute` makes an acute accent: á (math mode).
`\addcontentsline{toc}{section}{name}` adds the command `\contentsline{section}{name}` to the `.toc` file.
`\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 ℵ (math mode).
`\alph{counter}` makes numbering tokens for counter be lower-case letters. `\Alph{counter}` makes tokens upper-case.
`\alpha` is α (math mode).
`\amalg` is ∪ (math mode).
`\and` separates multiple authors for the `\maketitle` command.
`\angle` is ∠ (math mode).
`\appendix` starts appendices.
`\approx` is ≈ (math mode).
`\arabic{counter}` makes numbering tokens for counter be 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`.
`\ast` is * (math mode).
`\asymp` is ≈ (math mode).
`\author{names}` declares author(s) for the `\maketitle` command.
`\b` is a “bar-under” accent, as ô.
`\backslash` is \ (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`.X

`\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:
$$,$$
 within text. Same as `$.X`

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

`\begin{picture}` starts a picture environment whose width is `x` units, height is `y` units, and lower-left corner is the point `.` Set units with `\unitlength`.X

`\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`.X

`\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.X

`\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.

`\beginlistoffigures` produces the heading for the list of figures.

`\beginlistoftables` produces the heading for the list of tables.

`\beginlistofcontents` produces the heading for the table of contents.

`\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`.

`\big` makes a large delimiter (as an ordinary variable); `\Big` is slightly larger (math mode).

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

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

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

`\bigg` makes a large delimiter (as an ordinary variable), slightly larger than `\Big`; `\Bigg` is slightly larger (math mode).

`\biggl` opens a large left-hand delimiter, larger than `\Bigl`; `\Biggl` is slightly larger (math mode).

`\biggm` indicates a large delimiter in the middle of a formula, larger than `\Bigm`; `\Biggm` is slightly larger (math mode).

`\biggr` opens a large right-hand delimiter, larger than `\Bigr`; `\Biggr` is slightly larger (math mode).

`\bigl` opens a large left-hand delimiter; `\Bigl` is slightly bigger (math mode).

`\bigm` indicates a large delimiter in the middle of a formula; `\Bigm` is slightly bigger (math mode).

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

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

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

`\bigR` opens a large right-hand delimiter; `\Bigr` is slightly bigger (math mode).

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

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

`\bigskip` — vertical space `\bigskipamount`; big skip between paragraphs (cf. `\smallskip` and `\medskip`).

`\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).

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

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

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

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

`\Box` is \square (math mode).

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

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

`\c` is a cedilla, as \c{c} .

`\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`.

`\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.

`\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).

`\contentsline{sectyp}{...{num}title}{page}` is the command inserted into the `.toc` file for a table of contents entry.

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

`\copyright` is \copyright .

`\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 $\underset{\cdot}{o}$.
`\dag` is \dagger .
`\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.
`\dbltextfloatset` — distance between double-
width floats at the top or bottom of a two-column
page, and the text on that page.
`\ddag` is \ddagger .
`\ddagger` is \ddagger (math mode).
`\ddot` makes a dieresis over a letter: \ddot{a} (math mode).
`\deg` is \deg (math mode).
`\delimiterfactor` — ratio for variable
delimiters, times 1000.
`\delta` is δ ; `\Delta` is Δ (math mode).
`\det` is \det (math mode).
`\diamond` is \diamond . `\Diamond` is \Diamond (both math mode).
`\diamondsuit` is \blacklozenge (math mode).
`\dim` is \dim (math mode).
`\displaystyle` switches to *displaymath* or
equation environment typesetting.
`\div` is \div (math mode).
`\documentstyle[substy]{sty}` determines
default font, headings, etc. for document of style *sty*
(and optional substyle *substy*) Styles: *report*,
article, *letter*, *slides*. Substyles: *11pt*,
12pt, *twocolumn*, *twoside*, `\fleqn`, `\draft`,
acm, *leqno*.
`\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).
`\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 framed box around *text*.
`\fboxrule` — thickness of ruled frame for `\fbox`
and `\framebox`.
`\fboxsep` — space between frame and text for `\fbox`
and `\framebox`.
`\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}` makes numbering tokens
for counter be “footnote symbols”.
`\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*. 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).X

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

`\fussy` is the default declaration for the line-breaking algorithm. Opposite is `\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 \mathring{o} .

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

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

`\head{text}` defines headings for the `myheadings` page style.

`\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` expands to fill horizontal space available.

`\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 is not removed at the end of a line.

`\huge` switches to a very large typeface.

`\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).

`\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).X

`\intertextsep` — 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 j .

`\jmath` is j (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 \acute{l} . `\L` is \acute{L} .

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

`\labelwidth` — width of box containing list item label.

`\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.

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

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

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

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

`\le` is \leq (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).X
`\leftharpoondown` is \leftharpoondown (math mode).X
`\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`.
`\leftharpoonup` is \leftharpoonup (math mode).X
`\leftrightharrow` is \leftrightharrow . `\Leftrightarrow` is \Leftrightarrow (math mode).X
`\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).X
`\liminf` is \liminf (math mode).X
`\limsup` is \limsup (math mode).X
`\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 insistency.
`\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 \vee (math mode).
`\lq` is a left-quote: \lq .

`\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).X
`\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` — vertical space `\medskipamount`; medium skip between paragraphs (cf. `\smallskip` and `\bigskip`).
`\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 II (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 `l`).
`\multipt(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 is 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).X
`\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).X
`\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 \emptyset . `\O` is \emptyset .
`\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 ω ; `\Omega` is Ω (math mode).
`\ominus` is \ominus (math mode).
`\onecolumn` sets text in single column (default) (cf. `\twocolumn`).
`\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 (math mode).X
`\overline{text}` gives (math mode).X
`\owns` is \owns (math mode).
`\P` is ¶.
`\pagebreak[n]` forces a page break at that point (cf. `\linebreak` on page 6).X
`\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 (heading determined by `\head{text}`).
`\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`.X
`\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.

`\parstretch` — vertical stretch between paragraphs and list items. Normally zero.

`\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).

`\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).

`\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 \pounds .

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

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

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

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

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

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

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

`\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 \lceil (math mode).

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

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

`\renewcommand{\cs}[narg]{def}` redefines an old 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 old new 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 \lfloor (math mode).

`\rhd` is \triangleright (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).X

`\rightharpoondown` is \blacktriangleright (math mode).X

`\rightharpoonup` is \blacktriangleright (math mode).X

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

`\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}` makes numbering tokens for counter be lower-case roman numerals. `\Roman{counter}` gives 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 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.

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

`\scriptsize` switches subscript size type.

`\scriptstyle` switches to sub- or superscript-sized typesetting.

`\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`, `\settoheight`.
`\setminus` is `\` (math mode).
`\settoheight{\nl}{text}` sets value of length command `\nl` to the height of `text`. See also `\setlength`, `\newlength`, `\addtolength`.
`\sf` switches to **sans serif** font.
`\sharp` is \sharp (math mode).
`\shortstack[pos]{x\yy\zzz}` yields x
 yy
 zzz , 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).
`\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. (See `\fussy`).
`\small` switches to smaller than `normalsize` typeface.
`\smallint` is (math mode).
`\smallskip` — vertical space `\smallskipamount`; `\smallskip` between paragraphs (cf. `\medskip` and `\bigskip`).
`\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 $\sqrt[3]{arg}$ (root) is optional.X
`\sqsubset` is \sqsubset (math mode).
`\sqsubseteq` is \sqsubseteq (math mode).
`\sqsupset` is \sqsupset (math mode).
`\sqsupseteq` is \sqsupseteq (math mode).
`\ss` is β .

`\stackrel{stuff}{delim}` puts `stuff` above the `delim`; `\stackrel{f}{\longrightarrow}` yields (math mode).X
`\star` is \star (math mode).
`\stop` — type this if T_EX stops with a \star and no error message.
`\subparagraph[toctitle]{text}` begins a subparagraph, 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).X
`\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 oo.
`\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 L^AT_EX run.
`\tan` is \tan (math mode).
`\tanh` is \tanh (math mode).
`\tau` is τ (math mode).
`\textstyle` switches to `math` environment typesetting.
`\thanks{footnote}` adds an acknowledgement footnote to an author's name used in a `\maketitle` command.
`\theta` is Θ ; `\Theta` is τ (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 `'`.

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

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

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

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

`\today` generates today's date.

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

`\triangle` is Δ (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 \ddot{o} .

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

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

`\underline{text}` gives text (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 \v{a} .

`\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).

`\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).

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

`\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).

<code>\rm</code>	Roman	ò	<code>\`{o}</code>	ō	<code>\={o}</code>
<code>\it</code>	<i>Italic</i>	ó	<code>\' {o}</code>	ô	<code>\. {o}</code>
<code>\bf</code>	Boldface	ô	<code>\^{o}</code>	ö	<code>\u{o}</code>
<code>\sl</code>	<i>Slanted</i>	ö	<code>\" {o}</code>	ő	<code>\v{o}</code>
<code>\sf</code>	Sans serif	õ	<code>\~{o}</code>	õ	<code>\H{o}</code>
<code>\sc</code>	SMALL CAPS				
<code>\tt</code>	Typewriter				

Table 4: Accents

Table 1: Typefaces

<code>pt</code>	point (72.27 pt/in)	<code>\o</code>	<code>\aa</code>
<code>pc</code>	pica (12 pt/pc)	<code>e</code>	
<code>in</code>	inch	<code>\</code>	<code>\AA</code>
<code>bp</code>	big point (72 bp/in)	<code>O</code>	
<code>cm</code>	centimeter (2.54 cm/in)	<code>E</code>	
<code>mm</code>	millimeter (10 mm/cm)	<code>\</code>	<code>\o</code>
<code>dd</code>	didot point (1157 dd = 1238 pt)	<code>a</code>	
<code>cc</code>	cicero (12 dd/cc)	<code>e</code>	
<code>sp</code>	scaled point (65536 sp/pt)	<code>\</code>	<code>\O</code>
<code>em</code>	font-dependent; “quad” width	<code>A</code>	
<code>ex</code>	font-dependent; “x”-height	<code>E</code>	

Table 5: National Symbols

Table 2: Dimensions or lengths

<code>abstract</code>	<code>array</code>	†	<code>\dag</code>
<code>description</code>	<code>displaymath</code>		
<code>eqnarray</code>	<code>equation</code>		
<code>flushleft</code>	<code>flushright</code>		
<code>list</code>	<code>math</code>		
<code>picture</code>	<code>quotation</code>		
<code>tabbing</code>	<code>table</code>		
<code>theorem</code>	<code>titlepage</code>		
<code>verse</code>		‡	<code>\ddag</code>

Table 3: Environments

Table 6: Miscellaneous Symbols

\hat{a}	<code>\hat{a}</code>
\check{a}	<code>\check{a}</code>
\tilde{a}	<code>\tilde{a}</code>
\acute{a}	<code>\acute{a}</code>
\grave{a}	<code>\grave{a}</code>

*	<code>\ast</code>
*	<code>\star</code>
◇	<code>\diamond</code>
◦	<code>\circ</code>
•	<code>\bullet</code>
÷	<code>\div</code>
◁	<code>\lhd</code>
∨	<code>\vee</code>
∧	<code>\wedge</code>
⊕	<code>\oplus</code>
⊖	<code>\ominus</code>
⊗	<code>\otimes</code>
∅	<code>\oslash</code>

△
▽
∩
○
△
▽
⊙
†
⊞
⊠
∅

Table 7: Accents (math mode)

α	<code>\alpha</code>
β	<code>\beta</code>
γ	<code>\gamma</code>
δ	<code>\delta</code>
ϵ	<code>\epsilon</code>
ζ	<code>\zeta</code>
η	<code>\eta</code>
θ	<code>\theta</code>
ι	<code>\iota</code>
κ	<code>\kappa</code>
λ	<code>\lambda</code>
μ	<code>\mu</code>
ε	<code>\varepsilon</code>
ϑ	<code>\vartheta</code>
ϱ	<code>\varrho</code>
Γ	<code>\Gamma</code>
Δ	<code>\Delta</code>
τ	<code>\Theta</code>
Λ	<code>\Lambda</code>
Ξ	<code>\Xi</code>
Π	<code>\Pi</code>

Table 9: Binary Operations (math mode)

\leq	<code>\leq</code>
\prec	<code>\prec</code>
\preceq	<code>\preceq</code>
\ll	<code>\ll</code>
\subset	<code>\subset</code>
\subseteq	<code>\subseteq</code>
\sqsubset	<code>\sqsubset</code>
\sqsubseteq	<code>\sqsubseteq</code>
\in	<code>\in</code>
\vdash	<code>\vdash</code>
$($	<code>\smile</code>
$)$	<code>\frown</code>
\neq	<code>\neq</code>
\equiv	<code>\equiv</code>
\sim	<code>\sim</code>
\approx	<code>\approx</code>
\asymp	<code>\asymp</code>
\approx	<code>\approx</code>

\leq
\prec
\preceq
\ll
\subset
\subseteq
\sqsubset
\sqsubseteq
\in
\vdash
$($
$)$
\neq
\equiv
\sim
\approx
\asymp
\approx

Table 8: Greek letters (math mode)

\pm	<code>\pm</code>
\mp	<code>\mp</code>
\setminus	<code>\setminus</code>
\cdot	<code>\cdot</code>
\times	<code>\times</code>

Table 10: Relations (math mode)

\rightarrow	<code>\rightarrow</code>
\rightarrow	<code>\rightarrow</code>
\rightarrow	<code>\rightarrow</code>

\rightarrow
\rightarrow
\rightarrow

\Rightarrow	<code>\Rightarrow</code>	<code>\arccos</code>	<code>\coth</code>	<code>\ker</code>	<code>\min</code>
	<code>\leftrightharrow</code>	<code>\arcsin</code>	<code>\deg</code>	<code>\lg</code>	<code>\Pr</code>
\Leftrightarrow	<code>\Leftrightarrow</code>	<code>\arctan</code>	<code>\det</code>	<code>\lim</code>	<code>\sec</code>
\mapsto	<code>\mapsto</code>	<code>\arg</code>	<code>\dim</code>	<code>\liminf</code>	<code>\sin</code>
\hookleftarrow	<code>\hookleftarrow</code>	<code>\cos</code>	<code>\exp</code>	<code>\limsup</code>	<code>\</code>
	<code>\leftharpoonup</code>	<code>\sinh</code>			
	<code>\leftharpoondown</code>	<code>\csc</code>	<code>\gcd</code>	<code>\ln</code>	<code>\</code>
\leftarrow	<code>\rightleftharpoons</code>	<code>\sup</code>			
\uparrow	<code>\uparrow</code>	<code>\cosh</code>	<code>\hom</code>	<code>\log</code>	<code>\tan</code>
\Uparrow	<code>\Uparrow</code>	<code>\cot</code>	<code>\inf</code>	<code>\max</code>	<code>\</code>
\downarrow	<code>\downarrow</code>	<code>\tanh</code>			
\Downarrow	<code>\Downarrow</code>				
\Updownarrow	<code>\Updownarrow</code>				

Table 14: “Log-like” Functions (math mode)

Table 11: Arrows (math mode)

\aleph	<code>\aleph</code>
\hbar	<code>\hbar</code>
\imath	<code>\imath</code>
\jmath	<code>\jmath</code>
ℓ	<code>\ell</code>
\wp	<code>\wp</code>
\Re	<code>\Re</code>
\Im	<code>\Im</code>
∂	<code>\partial</code>
∞	<code>\infty</code>
\Box	<code>\Box</code>
\forall	<code>\forall</code>
\exists	<code>\exists</code>
\neq	<code>\neq</code>
\flat	<code>\flat</code>
\natural	<code>\natural</code>
\mathcal{U}	<code>\mathcal{U}</code>

Table 12: Miscellaneous Symbols (math mode)

Table 13: Variable-sized Symbols (math mode)

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

Table 15: Delimiters (math mode)