IATEX Command Summary

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

- $\ \ \sqcup$ ordinary space after period.
- $1 negative thin space = -\frac{1}{6}$ quad; xx1 x yields xxx (math mode).
- " makes an um laut, 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 $\mbox{end{math}}$ 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 \dot{o} .
- \backslash 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.

- \uparrow 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.
- \parallel is \parallel (math mode).
- $\}$ prints a curly right brace: $\}$.

\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 \mathbb{E} .

- \alph{counter} prints counter as lower-case
 letters. \Alph{counter} prints upper-case
 letters.
- \alpha is α (math mode).
- \amalg is II (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).
- **\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 \underline{o} .
- $backslash is \setminus (math mode).$
- \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 1, 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, \\.</pre>
- \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, 1, c, @{...},
 p{length} (see positions on page 8).
 | produces vertical line between columns.
 - $\{7\}$ (r|1|} 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 \bigcirc (math mode).
- \bigoplus is \bigoplus (math mode).
- \bigotimes is \bigotimes (math mode).
- \bigtriangledown is \bigtriangledown (math mode).

\bigtriangleup is \triangle (math mode).

- \bigskip standard "big" vertical skip.
- \bigskipamount default length for \bigskip.
- \bigsqcup is [] (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 \perp (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 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.
- \cdot is \cdot (math mode).

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

\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 ♣ (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).

 $\operatorname{copyright}$ is \bigcirc .

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

 \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 o.

∖dag is †.

\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 ‡.

 $\$ (math mode).

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

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

\delta is δ . \Delta is Δ (math mode).

\det is det (math mode).

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

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

\dim is dim (math mode).

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

 $\det s \div (math mode).$

\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 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
 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: \dot{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).
- **\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 1.
- $iff is \iff (math mode).$
- \Im is \Im (math mode).
- \imath is i (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 $\int (\text{math mode})$.
- \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 Omm.
- \itemsep vertical space between successive list
 items.

∖j is j.

- \jmath is j (math mode).
- **\Join** is \bowtie (math mode).
- \kappa is κ (math mode).
- $\$ (math mode).
- \kill in a \tabbing environment, deletes
 previous line so tabs can be set without
 outputting text.
- 1 is l. L is L.
- \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 \wedge (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).
- \ldots makes three dots at the base of the line: ...(cf. \cdots).
- \le is \leq (math mode).
- **\leadsto** is \rightsquigarrow (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.
- $\$ (math mode).
- $\$ (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.

- $\label{eq:leftrightarrow}$ (math mode).
- \leq is \leq (math mode).
- **\lfloor** is \lfloor (math mode).
- \lhd is \lhd (math mode).
- \lim is lim (math mode).
- \liminf is liminf (math mode).
- \limsup is lim sup (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 \neg (math mode).
- $\log is \log (math mode).$
- $\label{eq:longleftarrow}$ is \leftarrow . \Longleftarrow is \leftarrow (math mode).

- \lor is \lor (math mode).

- \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.
- $\verb+medskipamount--- default length for \verb+medskip.$

\mho is \mho (math mode).

- $\$ (math mode).
- $\min is \min (math mode).$
- \mit is "math italic" as in Π (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 |).
- $\mathfrak{(x,y)}(\Delta x, \Delta y) \{n\} \{obj\} is$
- $\det(x, y) \{ \texttt{obj} \}$ $\det(x + \Delta x, y + \Delta y) \{ \texttt{obj} \}$
 - ...

 $\t(x+(n-1)\Delta x,y+(n-1)\Delta y){\tt obj}.$

- **\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 Oin.
 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 \leq (math mode).
- $o is \phi$. $O is \phi$.
- **\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 is \times .
- \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.
- $\operatorname{verbrace} \{ text \} gives text (math mode).$
- $\operatorname{verline{text}}$ gives \overline{text} (math mode).
- \owns is \ni (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; 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).
- $\mbox{pmod}{modulus}$ 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, 1=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 \leq (math mode).
- \prime is / (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).

- **\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).
- \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).
- $\$ (math mode).
- $\$ (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).
- yy
 \shortstack[pos]{x\\yy\\zzz} yields 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).
- \signature{text} declares a signature for
 letter document style.
- \sim is ~ (math mode).

\simeq is \simeq (math mode).

- $\ sin is sin (math mode).$
- $\$ is 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 \int (math mode).
- \smallskip standard "small" vertical skip.
- \smallskipamount default length for \smallskip.
- \smile is \smile (math mode).

\spadesuit is \blacklozenge (math mode).

 $\space{1}$ (math mode).

- \sqcup is \sqcup (math mode).
- $\operatorname{Sqrt}[3]{\operatorname{arg}}$ is $\sqrt[3]{\operatorname{arg}}$. 3 (root) is optional.
- \sqsubset is \sqsubset (math mode).
- \sqsubseteq is \sqsubseteq (math mode).
- \sqsupset is \Box (math mode).
- \sqsupseteq is \supseteq (math mode).

∖ss is ß.

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

- $star is \star (math mode).$
- \stop type this if T_EX 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 $\sqrt{(\text{math mode})}$.
- \swarrow is \checkmark (math mode).
- \symbol{cc} produces the symbol (glyph)
 character code cc in the current font.
- t prints a "tie-after" accent, as \hat{oo} .
- \tabbingsep distance to left of a tab stop
 moved by \'.
- **\tabcolsep** half the width of the space between columns in **tabular** environment.
- $\label{eq:alpha} $$ table of contents produces a table of contents. A .toc file must have been generated during a previous IATEX run. $$$
- \tanh is tanh (math mode).
- \tau is τ (math mode).
- **\TeX** produces the T_{EX} 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 \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 T_EX 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).
- $\$ (math mode).
- $\forall triangleright is \triangleright (math mode).$
- **\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 text (math mode).
- \underline{text} gives text (math mode or not).
- \unitlength length of coordinate units for picture environment.
- \unlhd is \trianglelefteq (math mode).
- \unrhd is \succeq (math mode).
- \uparrow is \uparrow . \Uparrow is \uparrow (math mode).
- \updownarrow is \uparrow . \Updownarrow is \updownarrow (math mode).
- \uplus is \uplus (math mode).
- \upsilon is v. \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 ŏ.
- \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).
- $\mathbf{vdash} \text{ is } \vdash (\text{math mode}).$
- vdots is : (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 \lor (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.
- $\t verb*/text/$ is like $\t verb/text/$, but spaces print out as \sqcup .
- $\forall vert is |. \forall vert is || (math mode).$
- \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 \land (math mode).
- $\quad \text{widehat} \{ \arg \} \text{ is } \widehat{arg} \text{ (math mode)}.$
- $widetilde{arg}$ 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).

IAT_EX typefaces

\rm	Roman	Miscellaneous symbols					
\it	Italic						
\bf	Boldface						
\sl	Slanted	ť	\dag	§	\S	C	\copyright
\sf	Sans serif	‡	\ddag	ſ	\P	£	\pounds
\sc	Small Caps						
\tt	Typewriter						

Dimensions or lengths

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

IATEX environments

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

Text-mode accents

ò	\'{o}	ō	\={o}	Ô	\t{oo}
ó	\'{o}	ò	\.{o}	Ş	\c{o}
ô	\^{o}	ŏ	\u{o}	ò	\d{o}
ö	\"{o}	ŏ	\v{o}	Q	\b{o}
õ	\~{o}	ő	\H{o}		

National symbols

œ	∖oe	å	∖aa	ł	\1
Œ	\0E	Å	\AA	Ł	\L
æ	\ae	ø	\ 0	ß	\ss
Æ	\AE	Ø	\0		

Math-mode accents

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

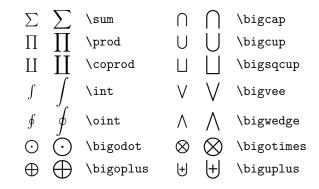
Greek letters (math mode)

α	\alpha	ν	\nu
β	\beta	ξ	\xi
γ	\gamma	0	0
δ	\delta	π	\pi
ϵ	\epsilon	ρ	\rho
ζ	\zeta	σ	\sigma
η	\eta	au	\tau
θ	\theta	v	\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
Q	\varrho	r	· · F
2			
Б	\ a		\ a :
Г	\Gamma	Σ	\Sigma
Δ	\Delta	Υ	\Upsilon
Θ	\Theta	Φ	\Phi
Λ	\Lambda	Ψ	\Psi
Ξ	\Xi	Ω	\Omega
Π	\Pi		
11	/+ +		

Binary operations (math mode)

\pm	\pm	\cap	\cap
Ŧ	\mp	U	\cup
\setminus	\setminus	$ \boxplus $	\uplus
•	\cdot	\Box	\sqcap
×	\times	\Box	\sqcup
*	\ast	\triangleleft	\triangleleft
*	\star	\triangleright	\triangleright
\diamond	\diamond	2	\wr
0	\circ	\bigcirc	\bigcirc
•	\bullet	\triangle	\bigtriangleup
÷	\div	\bigtriangledown	\bigtriangledown
\triangleleft	\lhd	\triangleright	\rhd
\vee	\vee	\odot	\odot
\wedge	\wedge	t	\dagger
\oplus	\oplus	‡	\ddagger
\ominus	\ominus	Ш	\amalg
\otimes	\otimes	\trianglelefteq	\unlhd
\oslash	oslash	\geq	\unrhd

Variable-sized symbols (math mode)



Delimiters (math mode)

(())
[[j]
{	\{	}	\}
L	\lfloor		\rfloor
Γ	\lceil	1	\rceil
\langle	\langle	\rangle	\rangle
/	/	\setminus	\backslash
	\vert		\Vert
Î	\uparrow	↑	\Uparrow
\downarrow	\downarrow	\Downarrow	\Downarrow
\uparrow	\updownarrow	\updownarrow	\Updownarrow

Relations (math mode)

\leq	∖leq	\geq	∖geq
\prec	\prec	\succeq	\succ
\preceq	\preceq	\succeq	\succeq
\ll	\11	\gg	\gg
\subset	\subset	\supset	\supset
\subseteq	\subseteq	\supseteq	\supseteq
	\sqsubset	_	\sqsupset
\Box	\sqsubseteq	\square	\sqsupseteq
\in	\in	\ni	\ni
\vdash	\vdash	\dashv	\dashv
\smile	∖smile		\mid
\frown	\frown	Ú	\parallel
\neq	\neq	Ц.	\perp
≡	\equiv	\cong	\cong
\sim	\sim	\bowtie	\bowtie
\simeq	∖simeq	\propto	\propto
\asymp	\asymp	Þ	\models
\approx	\approx	÷	\doteq
		\bowtie	\Join

"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
\subset	$\ inf$	\max	\tanh

Arrows (math mode)

\leftarrow	\leftarrow	←	\longleftarrow
\Leftarrow	\Leftarrow	\Leftarrow	\Longleftarrow
\rightarrow	\rightarrow	\longrightarrow	\longrightarrow
\Rightarrow	\Rightarrow	\implies	\Longrightarrow
\leftrightarrow	\leftrightarrow	\longleftrightarrow	\longleftrightarrow
\Leftrightarrow	\Leftrightarrow	\iff	\Longleftrightarrow
\mapsto	\mapsto	\longmapsto	$\label{longmapsto}$
\leftarrow	\hookleftarrow	\hookrightarrow	\hookrightarrow
	\leftharpoonup		\rightharpoonup
<u> </u>	\leftharpoondown		\rightharpoondown
\rightleftharpoons	$\ \$	\rightsquigarrow	\leadsto
\uparrow	\uparrow	\uparrow	\Updownarrow
↑	\Uparrow	7	\nearrow
\downarrow	\downarrow	\searrow	\searrow
\Downarrow	\Downarrow	\checkmark	\swarrow
\uparrow	\updownarrow	~	\nwarrow

Miscellaneous symbols (math mode)

х	\aleph	1	\prime
\hbar	\hbar	Ø	\emptyset
ı	\perp imath	∇	\nabla
J	∖jmath		\surd
ℓ	\ell	Ť	\top
\wp	\wp	\perp	\bot
\Re	∖Re		M
\Im	∖Im	Ĺ	\angle
∂	\partial	\triangle	\triangle
∞	∖infty	\backslash	\backslash
	\Box	\diamond	\Diamond
\forall	\forall	#	\sharp
Ξ	\exists	÷	\clubsuit
_	\neg	\diamond	\diamondsuit
þ	\flat	\heartsuit	\heartsuit
þ	\natural		\spadesuit
Ω	\mho		