LaTeX Typesetting By Example

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This article demonstrates a basic set of LaTeX formatting commands. Compare the typeset output side-by-side with the input document.

1 Plain Text

Type your text in free-format; lines can be as long or as short as you wish. You can indent or space out your input text in any way you like to highlight the structure of your manuscript and make it easier to edit. LaTeX fills lines and adjusts spacing between words to produce an aesthetically pleasing result.

Completely blank lines in the input file break your text into paragraphs. To change the font for a single character, word, or set of words, enclose the word and the font changing command within braces, *like this*. A font changing command not enclosed in braces, like the change to **bold here, keeps that change in effect until the end of the document or until countermanded by another font switch, like this change back to** roman.

2 Displayed Text

Use the "quote" and "quotation" environments for typesetting quoted material or any other text that should be slightly indented and set off from the normal text.

> The quote and quotation environments are similar, but use different settings for paragraph indentation and spacing.
>
> *When in doubt, consult the manual.*

So far, I have demonstrated titles, paragraphs, font changes, and section headings. Now, I am going to show lists and tables.

1. The "enumerate" environment numbers the list elements, like this.

   Items in a list can contain multiple paragraphs. These paragraphs are appropriately spaced and indented according to their position in the list.

- The "itemize" environment sets off list items with "bullets", like this. Finally, the "description" environment lets you put your own

  A label on each item, like this "A".

  If the label is long, the first line of the item text will be spaced over to the right as needed.

- Of course, lists can be nested, each type up to at least four levels. One type of list can be nested within another type.
  - Nested lists of the same type will change style of numbering or "bullets" as needed.

2. Don't forget to close off all list environments with the appropriate `\end{...}` command. Indenting `\begin{...}`, `\item`, and `\end{...}` commands in the input document according to their nesting level can help clarify the structure.

Here is a very simple table showing data lined up in columns. Notice that I include the table in a "center" environment to display it properly. The title is created simply as another paragraph in the center environment, rather than as part of the table itself.

Numbers of Computers on Earth Sciences Network, By Type.

Macintosh	175
DOS/Windows PC	60
Unix Workstation or server	110

Here is a more complicated table that has been boxed up, with a multi-column header and paragraph entries set in one of the columns.

Places to Go Backpacking		
Name	Driving Time (hours)	Notes
Big Basin	1.5	Very nice overnight to Berry Creek Falls from either Headquarters or ocean side.
Sunol	1	Technicolor green in the spring. Watch out for the cows.
Henry Coe	1.5	Large wilderness nearby suitable for multi-day treks.

3 Mathematical Equations

Simple equations, like x^y or $x_n = \sqrt{a+b}$ can be typeset right in the text line by enclosing them in a pair of single dollar sign symbols. Don't forget that if you want a real dollar sign in your text, like $2000, you have to use the `\$` command.

A more complicated equation should be typeset in *displayed math* mode, like this:

$$z \left(1 \; + \; \sqrt{\omega_{i+1} + \zeta - \frac{x+1}{\Theta+1} y + 1} \right) \quad = \quad 1$$

The “equation” environment displays your equations, and automatically numbers them consecutively within your document, like this:

$$\left[\mathbf{X} + \mathrm{a} \ \geq \ \underline{\hat{a}} \sum_{i}^{N} \lim_{x \to k} \delta C \right] \tag{1}$$

It has been said that if "traditional logic is about truth, then linear logic is about food." In other words linear logic is type of logic that is concerned with resources. For instance consider this proposition in sequent logic, $\overline{\langle A \multimap B \rangle, \langle A \rangle \vdash A \otimes B}$