

There are two types of lists:

- Unnumbered lists
- Numbered lists

Unnumbered lists are straightforward. They are created with the `itemize` environment. Individual bulleted items are created with the `\item` command.

You can also create sublists, as in the following example:

- First item
- Second item
 - \LaTeX automatically adjusts the bullets for each level of indentation
 - Note that if an item is really long, as this item is, that each line of text is properly indented. This is an extra sentence to make sure this item is really, really long and takes up more than one line on the page.
- Third item

You can embed up to four levels of lists. It is rare to need more than two levels.

Numbered lists are created with the `enumerate` environment. Here's an example:

1. First step
2. Second step
 - (a) Sublists work here too
 - (b) See how numbering has changed to lettering here
3. Numbering resumes when a sublist finishes
 - An example of embedding an unnumbered sublist inside a numbered list
 - You can mix and match as needed

That's all there is to basic lists. There are many ways to customize a list; I customize the second level when writing homework problems with parts, eliminating the parentheses around the letter.

A good reference for creating and customizing lists is at

https://www.overleaf.com/learn/latex/Lists#The_enumerate_environment_for_numbered_.28ordered.29_lists

L^AT_EX has the ability to create tables. Although they can be a bit difficult to work with if you want to do anything fancy, creating a basic table is fairly simple.

To create a table, use the `tabular` environment. When you begin the environment, you must also specify the number of columns and the justification of each column — left, right or centered. For example, the command

$$\begin{tabular}{cclrr}\end{tabular}$$

creates a table with five columns — the first two columns are centered, the third column is left-justified and the last two columns are right-justified.

Content inside the `tabular` environment is divided into rows. A row is all content up to an end-of-line marker `\`. Within a row, columns are separated by an ampersand (`&`) character. Note that if there are n columns, there must always be at most $n - 1$ ampersands on a row.

Column widths are adjusted to hold the widest content in the column, plus some padding. Here's an example illustrating this:

| Word | Count |
|------------------------------|-------|
| cat | 3 |
| horse | 5 |
| octopus | 7 |
| antidisestablishmentarianism | 28 |

Note that there are no borders, and the table is not centered on the page. To center the table, place the `tabular` environment inside a `center` environment (see next example).

Horizontal borders are always above the content line. To add a horizontal border, use the `\hline` command before the content of the line. This will place the border above the content. To get a border below the last line, add a line at the bottom with the `\hline` command and no content. You can use two consecutive `\hline` commands to get a double line.

To create vertical borders, insert vertical bars (`|`) in the column specification wherever you want a vertical border. This includes before the first column and after the last column. For example, to add vertical borders to the previous example, you can use `{|c|r|}` as the column specification.

Here is an example using borders; note the use of a double line to help separate the column headings from the rest of the table.

| p | q | $\neg p$ | $\neg q$ | $p \rightarrow q$ | $\neg q \rightarrow \neg p$ | $(p \rightarrow q) \iff (\neg q \rightarrow \neg p)$ |
|-----|-----|----------|----------|-------------------|-----------------------------|--|
| T | T | F | F | T | T | T |
| T | F | F | T | F | F | T |
| F | T | T | F | T | T | T |
| F | F | T | T | T | T | T |

Final thought: Instead of explaining the symbols and commands here, I've added comments in the L^AT_EX document to explain them. Have a look at the source file; comments begin with `%` and go to the end of the line.