

A (Very) Short L^AT_EX Example

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1 Equations

This is a mathematical equation:

$$n^2 \log n \in \mathcal{O}(n^3)$$

In the source file, there are no blank lines between the text and the equation. This is because L^AT_EX sees a blank line as the end of the paragraph.

This is the start of new paragraph, and this is a more complicated mathematical equation:

$$1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots = \sum_{k=0}^{\infty} \frac{1}{2^k} = \lim_{n \rightarrow \infty} \sum_{k=0}^n \frac{1}{2^k} = 2$$

Here, we have a blank line after the equation and therefore a new paragraph. If you want to avoid this while still making the source readable, you can put comment characters inbetween, like this:

$$|\{1, 2, 3, 4\}| = 4 \tag{1}$$

Wow, that worked great! We also used `equation` instead of `equation*`, so the equation is numbered. The equation is also labelled in the source code, so we can refer to it as Equation 1 by using the `ref` command.

We can also use *inline* formatting by surrounding a block of text with `$`. For example, $\pi = 3.141592\dots$ and $\mathbb{N} = \{1, 2, 3, \dots\}$.

2 Other Stuff

2.1 Tables

Table 1 shows an example of a table.

Row 1	1		2
Row 2	3		4
Row 3	\mathbb{R}		$f(n) = \Theta(g(n)) \implies f(n) = \Omega(g(n))$ and $f(n) = \mathcal{O}(g(n))$

Table 1: Example of a Table



Figure 1: Aww

2.2 Including Images

We can include images by using the `graphicx` package. The preamble of this document includes it. We can now include images by using the `\includegraphics` command. We can use the `scale` option to control the size. Often, we want to place the image in a `figure` environment. For an example, see Figure 1.

3 Compiling

To compile this document on the Unix system, do the following:

- Download the source file and the image `cat.png`, and put them in the same folder.
- Using the terminal, navigate into that folder.

- Run `pdflatex example.tex` and wait. When the command completes, run `pdflatex example.tex` again to get the references right.
- You now have `example.pdf` in that folder.