

Document Structure

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July 4, 2001

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1 Introduction

Most articles are broken up into sections. The **section** command will take care of this for you. There are also **subsection** commands, and further ways to subdivide your text. You can use the **tableofcontents** command to display the structure of your document.

2 The Plot Thickens

There are three common ways to make lists; these are similar to unordered list, ordered list, and definition list in HTML, if you're familiar with that system. Here is a use of the unordered list:

- The **itemize** command creates simple lists.
- The **enumerate** command creates numbered lists.
- The **description** command makes lists of items and their definitions or descriptions.

Let's just repeat this example, but now using the **enumerate** command. The only difference is that items are numbered.

1. The **itemize** command creates simple lists.
2. The **enumerate** command creates numbered lists.
3. The **description** command makes lists of items and their definitions or descriptions.

We can also show the **description** command, which can be very useful for glossaries:

itemize creates simple lists.

enumerate creates numbered lists.

description makes lists of terms and their definitions or descriptions. The terms are automatically set in boldface and the descriptions are indented somewhat.

3 The Surprising Conclusion

Of course, one of our main goals is to write up mathematical formulas. One way of using mathematical symbols and formulas is a part of running text. We might, for instance, simply want to say that $\pi \approx 3.14159265$, or that $\sqrt{x^2 + 2x + 1} = x + 1$ or that $\sum_{i=1}^{i=n} i = \frac{n(n+1)}{2}$. The simplest way of marking off the formulas is to use a dollar sign. In some cases, \LaTeX will have to squash the formulas so that they don't disrupt the paragraph too much. This is called *text mode*, since the mathematics is treated as part of the text.

We can also request that mathematical text be set off from the regular text. This is called *math mode*. It can be invoked using double dollar signs, or else the **displaymath** command. Thus, we may refer to the following well-known approximation:

$$\pi \approx 3.14159265$$

and to the fact that

$$\sqrt{x^2 + 2x + 1} = x + 1$$

and we notice that the following formula is printed differently:

$$\sum_{i=1}^{i=n} i = \frac{n(n+1)}{2}$$

If you want a formula to be numbered, you must use the **equation** environment for it:

$$\int_a^b x dx = \frac{(b^2 - a^2)}{2} \tag{1}$$