

# SAMPLE T<sub>E</sub>X DOCUMENT

## ONE MATH STUDENT AND ANOTHER MATH STUDENT

ABSTRACT. The abstract goes here. . . . This is a very brief document to get you started using T<sub>E</sub>X with the macro package L<sup>A</sup>T<sub>E</sub>X.

### 1. TITLE OF THE FIRST SECTION

The best approach to T<sub>E</sub>X is to just try it out. After installing whatever version of T<sub>E</sub>X you can get, try “typesetting” this document. After that, just add stuff, typeset again, and see the effect. The document [3] is a very useful guide to L<sup>A</sup>T<sub>E</sub>X. I suggest you download it and keep it handy. The manual for T<sub>E</sub>X, by its creator, Donald Knuth, is [2]. The manual for the macro package L<sup>A</sup>T<sub>E</sub>X is [1]. Usually [3] is quite sufficient; you would need these other manuals only for very special typesetting needs.

Usually the first section is an overview of what the paper is about, mat be stating the main theorems already. Also, typically this section places the results being presented in the context of the existing research literature.<sup>1</sup>

This is how a theorem is stated:

**Theorem 1.1.** *Let this be the statement of some theorem.*

The proof comes next, perhaps:

*Proof.* Pretend this is the proof. □

### 2. TITLE OF THE SECOND SECTION

And so it goes. May be you want to start with a lemma, as in

**Lemma 2.1.** *Let  $a, b$  be real numbers with  $a < b$ , let  $f : [a, b] \rightarrow \mathbb{R}$  be continuous. Then the function  $F : [a, b] \rightarrow \mathbb{R}$  defined by*

$$F(x) = \int_a^x f(t) dt$$

*is differentiable, and  $F'(x) = f(x)$ .*

The asterisk in `{equation*}` in the source file ensures that the equation is not numbered. If you want a displayed equation to be numbered, you omit the asterisk. For example,

$$\lim_{h \rightarrow 0} \frac{F(x+h) - F(x)}{h}. \tag{2.2}$$

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<sup>1</sup>By the way, Miskatonic University, in Arkham, MA, is a fictional university in a fictional town, invented by H. P. Lovecraft

The numbering of equations and theorem-like statements is automatic, but we do have some control about the style of this. The statement

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\numberwithin{equation}{section}
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in the preamble of the source file tells T<sub>E</sub>X to number the equations within each section as `section_number.equation_number`.

#### REFERENCES

- [1] L. Lamport. *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*. Addison-Wesley, Reading, Massachusetts, second edition, 1994, ISBN 0-201-52983-1.
- [2] D. E. Knuth. *The T<sub>E</sub>Xbook, Volume A of Computers and Typesetting*, Addison-Wesley, Reading, Massachusetts, second edition, 1984, ISBN 0-201-13448-9.
- [3] T. Oetiker, H. Partl, I. Hyna, and E. Schlegl, *The not so short introduction to Latex 2<sub>ε</sub>*, at <http://mirror.unl.edu/ctan/info/lshort/english/lshort-a5.pdf>

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