A Sample LaTeX Document

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1 Some Typesetting Commands

See the *Introduction to LaTeX* for further information on entering text into LaTeX. I would now like to quote Lewis Carroll[1]:

> "A slow sort of country!" said the Queen. "Now, *here*, you see, it takes all the running *you* can do, to keep in the same place. If you want to get somewhere else, you must run twice as fast as that!"

Now I would like to demonstrate some different type styles: Roman, *Italic*, **Bold**, *Slanted*, SMALL CAPS, `Typewriter`, and San Serif.

Here is an example
of a new line without starting a new paragraph.

And now a list:

- Canada
- United States
- Mexico

And another list:

1. United Kingdom
2. China
3. Russia
4. France

Finally, some examples of special characters:

> We drove down La Cañada Drive to watch Wagnerian opera. The role of Brünnhilde was played by Renée Gossens. Later we went to a restaurant called "La Meurtrière" and were served rôti by a rude garçon.

[1] From *Through the Looking Glass*.

2 Tables

Here is a one-inch space followed by a sample table:

Original	**Pig Latin**
Cat	Atcay
Dog	Ogday
Trash	Ashtray

3 And Now Some Mathematics

Mathematical expressions, like $x^2 + 3$, are easy to create in LaTeX. It is also easy to have a formula written on a separate line, like

$$x^2 + 3 = 0.$$

Numbered equations are easy too!

$$x^5 - 9x^4 = \sin 3. \tag{1}$$

You can also refer to previous equations. The formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \tag{2}$$

is the quadratic formula. You can use Equation **??** to solve quadratic equations.

Here is a formula with some simple mathematical operations:

$$5 \times 3 + 4 \div 2 = 2 \cdot 10 - 3 < 100.$$

Another simple formula:

$$x^2 \geq 0.$$

This formula is true for $x \in \mathbb{R}$. One more simple formula:

$$0 \neq \frac{\pi}{2}.$$

Some simple trigonometry:

$$\sin(2x) = 2 \sin x \cos x.$$

Some simple logarithms:

$$\log(x) = \frac{\ln x}{\ln 10}.$$

And now some Greek letters:

$$\alpha + \beta = \gamma.$$

A formula involving set notation:

$$A \cup (B \cap C) = (A \cup B) \cap (A \cup C).$$

The derivative:

$$\lim_{h \to 0} \frac{f(x+h) - f(x)}{h} = f'(x).$$

The Riemann sum

$$\sum_{i=1}^{n} f(x_i) \Delta x$$

approximates the integral

$$\int_a^b f(x)\, dx.$$

Finally, an infinite series:

$$1, \frac{1}{2}, \frac{1}{4}, \ldots.$$