An Introduction to LaTeX

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Trinity University

Intro to Abstract Math
February 24, 2020

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- "Complicated" technical documents are much more easily produced using LaTeX than a traditional word processor.

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  - Other packages, such as **WinEdt** for Windows, can be purchased for a small fee.

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“Blank Project” Source

```
\documentclass{article}
\usepackage[utf8]{inputenc}

\title{My Project}
\author{My Name}
\date{February 2020}

\begin{document}

\maketitle

\section{Introduction}

\end{document}
```

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  `$E = \{ n \in \mathbb{Z} \, | \, n \text{ is even} \}$`

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Option 1: Use **display mode** by enclosing expressions between `\[` and `\]`.

Option 2: Use `\displaystyle`.

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In-class exercises

After adjusting the title and changing the author's name to your own, scroll to the appropriate regions and code the following:

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(b) $\dfrac{dy}{dx} = \tan x + x^{4/3}$

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The `&` is an alignment tab, and `\\` indicates the end of a row.

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$$\mathbf{a} \times \mathbf{b} = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \end{vmatrix}$$

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Theorem environments

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Theorem (Bézout's Identity)

Let $m, n \in \mathbb{Z}$. There exist $r, s \in \mathbb{Z}$ so that

$$\gcd(m, n) = rm + sn.$$

Theorem environments

Theorem (Bézout's Identity)

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$$\gcd(m, n) = rm + sn.$$

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Code the following.

Theorem (Triangle Inequality)

For any $a, b \in \mathbb{C}$, *we have* $|a + b| \leq |a| + |b|$.

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\begin{equation}\label{divisorsum}
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If g is defined by (1), then

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\begin{equation}\label{inversion}
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Tables - the `tabular` environment

Consider the truth table for $P \to Q$:

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\begin{tabular}{c c | c}
$P$ & $Q$ & $P \to Q$ \\ \hline
$T$ & $T$ & $T$ \\
$T$ & $F$ & $F$ \\
$F$ & $T$ & $T$ \\
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\end{tabular}
```

- The argument `{c  c  |  c}` specifies three (horizontally) **c**entered columns,

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- Entries in math mode must *all* be enclosed in `$...$`.

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Anything you're trying to do with LaTeX someone else has probably already done. Don't reinvent the wheel!

Happy TeXing!