LaTeX Experiment

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Chapter 1

Basics of LaTeX

1.1 Basics

Text is formatted with: **bold**, *italic* and underline. section 1.1 clearly refers to chapter 1.

1.2 Typesetting content

1.2.1 Equations

An example of an inline is: the derivative of x^2 is $2x$. section 1.2.1 shows a display equation:

$$\begin{aligned} y_0 &= \frac{\sqrt{256}}{2} \\ &= 2^3 = 8 \end{aligned} \tag{1.1}$$

1.2.2 Units

An easy way to work with (SI) units: $1\,\mathrm{Hz}$ is equal to $2\pi\,\mathrm{rad\,s^{-1}}$

1.2.3 Figures

Here a figure named *something.png* is inserted [1]:

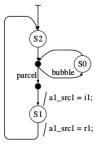

Figure 1.1: This is the caption

[1] The *something.png* file is located at the directory *figs/*.

1.2.4 Tables

A table is shown in table 1.1:

STUDENT INFORMATION		
First Name	Last Name	Age
John	Smith	21
Jack	Hoggs	23
Joey	Admin	22

Table 1.1: This is a table with good information

1.2.5 Lists

Numbered

1. First entry
2. Second entry
3. Third Entry

Descriptive

Reason 1 Because this is cool

Reason 2 Beacuse $2 + 2 = 4$

Simple List

+ Joe
+ Jack
+ `Hello world!`
+ Hey

1.2.6 Code and Pre-formatted Text

This code will print `Hello world` in Scala:

```
def main(args: Array[String]) = {
  println("Hello world!")
}
```

Chapter 2

More math practice

2.1 Greek letters

Various Greek letters are presented in table 2.1

Command	Symbol
`\Delta`	Δ
`\delta`	δ
`\epsilon`	ϵ
`\phi`	ϕ
`\pi`	π
`\Pi`	Π
`\bar a`	$\bar{a}$

Table 2.1: Greek letters and their corresponding command

2.2 More complicated mathematical description

2.2.1 Describing a set

A random set A is described using `\begin{cases}...\end{cases}` in equation (2.1) using a large font:

$$x \in A \leftrightarrow \begin{cases} x/2 \leq 16 & \text{if } x > 4 \\ 3 < x^2 \leq 16 & \text{when } x \leq 4 \end{cases} \tag{2.1}$$

After the equation is done, the font becomes a normal size again. So this is how life goes you know buddy I can't do anything but write garbage text—or should I?

2.2.2 Integrals

Integrals are written as described in equation (2.2):

$$\int_{-\pi}^{\infty} x dx \tag{2.2}$$