

COSC343: Assignment 1 report

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1 Introduction

Introduce the assignment and what it is about. For example, the purpose of this document is to provide a template for your report with examples of commonly used \LaTeX commands and features. You don't need to repeat all the details of the information provided in the assignment description. The purpose of this is just to provide some context for everything that follows.

2 Main body

You probably don't want to call this section "Main body"...but it's essentially what you need to do next – report on the work you've done for your assignment: the approach, results, analysis, and anything else that was asked for in the assignment specification.

You can use the `\section{}` and `\subsection{}` commands to organise your document - either break the main body into multiple sections, or have it as a one section with subsections. \LaTeX handles all the formatting and numbering automatically. Use the `\ref{}` and `\label{}` commands for cross-references.

2.1 Citing

You might want to cite some sources of your information. For instance, a reference for \LaTeX can be found here [\[1\]](#).

2.2 How to compile \LaTeX

\LaTeX documents are prepared using markup language and need to be compiled to produce pdfs.

The easiest way is to use the [Overleaf service](#) - it's free for private projects. Create an account and once you login you can create different projects (essentially different documents). After clicking on "New Project" select "Upload project" and upload the *cosc343report.zip* file where this file came from. The template will open on the website and you'll be able to write your report through your browser, compile \LaTeX online and have it saved on a remote server. Later you just download the final pdf and submit as your report.

Alternately, you can install \LaTeX compiler on your machine and compile the .tex file yourself. On macOS you need to download and install [MacTeX](#). Then, using a program like [TexShop](#) (free), or [Texpad](#) (awesome, but not free) you can edit and compile a .tex file into a .pdf.



Figure 1: This is a figure caption.

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

2.3 Tables and Figures

Use the `table` and `tabular` commands for basic tables — see Table 1, for example. You can include a figure (JPEG, PNG or PDF) with the `\includegraphics` command as in the code for Figure 1 below.

2.4 Mathematics

L^AT_EX is great at typesetting mathematics. Let X_1, X_2, \dots, X_n be a sequence of independent and identically distributed random variables with $E[X_i] = \mu$ and $\text{Var}[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_i^n X_i$$

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

2.5 Lists

You can make lists with automatic numbering ...

1. Like this,
2. and this

...or bullet points ...

- Like this,
- and this

3 Conclusion

Concluding remarks. It could be a brief summary and/or comments on what you have learned/enjoyed/struggled with. Depending on the space taken up by figures and formatting the report (excluding the Appendix) should be somewhere in the range of 3-5 pages. Remember, it's not about creative space-wasting to hit the 4 pages, but about reporting on your work and results, so I can tell how much you have done and learned.

References

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L^AT_EX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.

Appendix A Some extra things

If you have anything more to add you might want to add it to the appendix. For instance, some details could detract from readability if placed in the main body of the report, but might still be needed in the appendix for completeness and/or reference. You don't need to have an appendix if you don't think you need one.

Do not stick code in the appendix - any code should be submitted as a separate file (.py file for Python code).