My Graduate Thesis

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By You R. Name B.Sc.

A Thesis Submitted to the School of Graduate Studies in the Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

You may hate gravity, but gravity does not care

—Albert Einstein

You can have a dedication here if you wish.

McMaster University
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Lay Abstract

The lay abstract must be 150 words or less.

It must explain the key goals and contributions of the thesis in lay terms that are accessible to the general public.

Abstract

This is the abstract.

I can write a really long abstract.

Acknowledgements

I want to thank a few people.

This includes my friends.

Contents

List of Figures

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Declaration of Authorship

I, You R. Name, declare that this thesis titled, *My Graduate Thesis* and the work presented in it are my own. I confirm that:

I did most of the research.

Also the writting.

Sometimes I cried.

But mostly I had fun.

Chapter 1

This is the degree you are aiming for with this thesis

Placeholder

Chapter 2

R Markdown Basics

Here is a brief introduction into using *R Markdown*. *Markdown* is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. *R Markdown* provides the flexibility of *Markdown* with the implementation of **R** input and output. For more details on using *R Markdown* see https://rmarkdown.rstudio.com.

Be careful with your spacing in *Markdown* documents. While whitespace largely is ignored, it does at times give *Markdown* signals as to how to proceed. As a habit, try to keep everything left aligned whenever possible, especially as you type a new paragraph. In other words, there is no need to indent basic text in the Rmd document (in fact, it might cause your text to do funny things if you do).

Here is a reference to Angel (2000).

Chapter 3

Writing

You can use `R` code in your document. For example:

‘`markdown{r ch1-load-packages, message=FALSE} plot(cars)

Warning: package ‘dplyr’ was built under R version 4.3.2 “‘

Naming the code chunks is convenient for navigating your document. You can use chunk options to control what the code does and how it is displayed. See Yihui Xie’s documentation about chunk options https://yihui.org/knitr/options/. In the chunk above `message=FALSE` forces the chunk to not display messages when the packages are loaded.

Of course, unless you are explicitly illustrating/discussing the code, you might not want the code to appear in the thesis! As another example, a chunk would *not* be displayed *at all* in the output document if `echo=FALSE`.

You can create elegant figures and tables using `R` and displaying them in your thesis.

Figure 3.1 is an example of a figure generated using the package `ggplot`. Table 3.1 is an example of a table created using the package `kableExtra`. Table 3.2 is the same as Table 3.1, but placed in landscape orientation. Landscape orientation is useful for wide tables or for large figures.

Table 3.1: Example of a table with summary statistics

displ	year	cyl
Min. :1.600	Min. :1999	Min. :4.000
1st Qu.:2.400	1st Qu.:1999	1st Qu.:4.000
Median :3.300	Median :2004	Median :6.000
Mean :3.472	Mean :2004	Mean :5.889
3rd Qu.:4.600	3rd Qu.:2008	3rd Qu.:8.000
Max. :7.000	Max. :2008	Max. :8.000

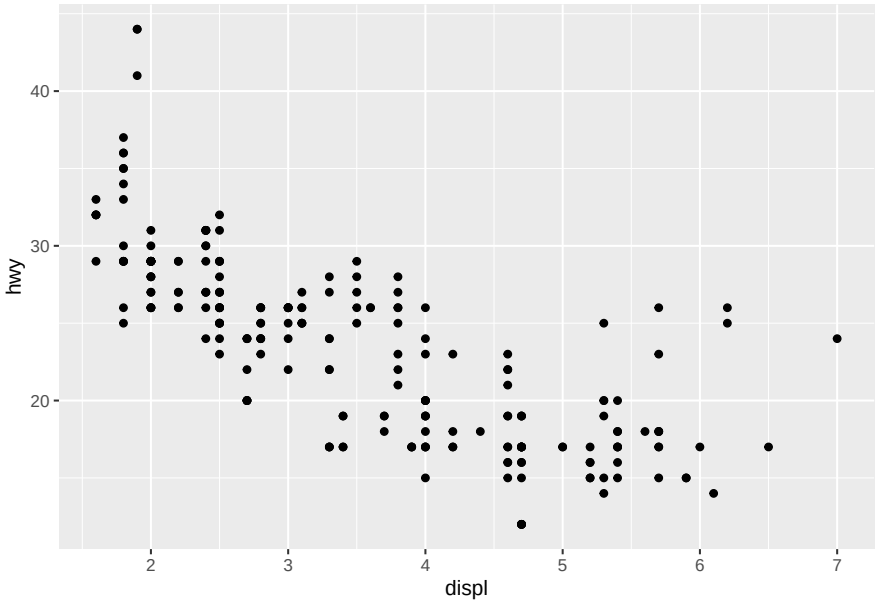

FIGURE 3.1: Example of a scatterplot

TABLE 3.2: Example of a table in a landscape page

displ	year	cyl
Min. :1.600	Min. :1999	Min. :4.000
1st Qu.:2.400	1st Qu.:1999	1st Qu.:4.000
Median :3.300	Median :2004	Median :6.000
Mean :3.472	Mean :2004	Mean :5.889
3rd Qu.:4.600	3rd Qu.:2008	3rd Qu.:8.000
Max. :7.000	Max. :2008	Max. :8.000

Chapter 4

Mathematics and Science

Placeholder

4.1 Math

4.1.1 Other examples of reactions

4.2 Physics

4.3 Biology

Conclusion

If we don't want Conclusion to have a chapter number next to it, we can add the `{-}` attribute.

More info

And here's some other random info: the first paragraph after a chapter title or section head *shouldn't be* indented, because indents are to tell the reader that you're starting a new paragraph. Since that's obvious after a chapter or section title, proper typesetting doesn't add an indent there.

References

Placeholder

Angel, E. (2000). *Interactive computer graphics : A top-down approach with OpenGL.* Boston, MA: Addison Wesley Longman.