

# DRAFT Book Reproducible Templates

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# Contents

<b>List of Tables</b>	<b>5</b>
<b>List of Figures</b>	<b>7</b>
<b>Preface</b>	<b>9</b>
Why read this book . . . . .	9
Structure of the book . . . . .	9
Software information and conventions . . . . .	9
Acknowledgments . . . . .	9
Prerequisites . . . . .	9
Colophon . . . . .	9
<b>About the Author</b>	<b>11</b>
<b>I Part One</b>	<b>13</b>
<b>1 Introduction</b>	<b>15</b>
<b>2 Literature</b>	<b>17</b>
<b>II Part Two</b>	<b>19</b>
<b>3 Methods</b>	<b>21</b>
<b>4 Applications</b>	<b>23</b>
4.1 Example one . . . . .	23
4.2 Example two . . . . .	23
<b>5 Final Words</b>	<b>25</b>

<b>III</b>	<b>Appendix</b>	<b>27</b>
<b>A</b>	<b>First appendix section</b>	<b>29</b>
<b>B</b>	<b>another appendix section</b>	<b>31</b>
	<b>Bibliography</b>	<b>33</b>
	<b>Index</b>	<b>34</b>

# List of Tables

1.1	Here is a nice table! . . . . .	16
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# List of Figures

1.1	Here is a nice figure! . . . . .	16
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# Preface

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## Why read this book

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## Structure of the book

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## Software information and conventions

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## Acknowledgments

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## Prerequisites

This is a *sample* book written in **Markdown**. You can use anything that Pandoc's Markdown supports, e.g., a math equation  $a^2 + b^2 = c^2$ .

The **bookdown** package can be installed from CRAN or Github:

Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading #.

To compile this example to PDF, you need to install XeLaTeX.

## Colophon

### R Packages Used in This Book

This book will use the R programming language (R Core Team, 2017) with the following R packages:

1. `bookdown` (Xie, 2017a)
2. `rmarkdown` (Allaire et al., 2018)
3. `knitr` (Xie, 2017b)
4. `dplyr` (Wickham et al., 2017)
5. `ggplot2` (Wickham and Chang, 2016)
6. `printr` (Xie, 2017c)
7. `fivethirtyeight` (Ismay and Chunn, 2017)

Other external refs, book (Xie, 2015), and the FAD ref (Miller et al., 1985).

## R Session Info as of 2018-01-20 08:03:37

This book was compiled using the R packages `bookdown`, `rmarkdown`, and `knitr` running under the following `sessionInfo()`:

```
## R version 3.4.3 (2017-11-30)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 15063)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United States.1252
## [2] LC_CTYPE=English_United States.1252
## [3] LC_MONETARY=English_United States.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United States.1252
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] fivethirtyeight_0.3.0 printr_0.1      ggplot2_2.2.1
## [4] dplyr_0.7.4          knitr_1.18      rmarkdown_1.8.5
## [7] bookdown_0.5.10
##
## loaded via a namespace (and not attached):
## [1] Rcpp_0.12.13      rstudioapi_0.7   bindr_0.1        magrittr_1.5
## [5] munsell_0.4.3     colorspace_1.3-2 R6_2.2.2         rlang_0.1.4
## [9] plyr_1.8.4        stringr_1.2.0    tools_3.4.3      grid_3.4.3
## [13] gtable_0.2.0      htmltools_0.3.6  lazyeval_0.2.0   yaml_2.1.16
## [17] rprojroot_1.3-2   digest_0.6.12    assertthat_0.2.0 tibble_1.3.4
## [21] bindrcpp_0.2      glue_1.1.1       evaluate_0.10.1  stringi_1.1.5
## [25] compiler_3.4.3    scales_0.5.0     backports_1.1.1  pkgconfig_2.0.1
```

# About the Author

Melinda Higgins has dual degrees in Chemometrics (PhD) and Statistics (MS) with 25 years experience in research, teaching, consulting, directing and managing projects. Her expertise includes programming/scripting languages (R, S, Pascal, Perl, Prolog) and statistical, mathematical, imaging, and geo-spatial processing software packages (R, SAS, SPSS, MATLAB, SYSTAT, ENVI, ESRI ArcView, IMAGINE). While at Georgia Tech Research Institute (1994-2011), she coordinated large team projects with rigorous timelines, milestone tracking and version control in the areas of remote sensing, geospatial information systems, sensor fusion and target recognition. In her current work at Emory (2007 –), she has 10+ yr expertise mentoring students and faculty in nursing and public health science research and scholarship. Her health research experience includes pattern recognition, phenotype characterizations and longitudinal modeling in heart failure, diabetes, cognitive impairment, and HIV/AIDS chronic disease populations.



## Part I

### Part One



# Chapter 1

## Introduction

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 1. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 3.

Figures and tables with captions will be placed in **figure** and **table** environments, respectively.

Reference a figure by its code chunk label with the **fig:** prefix, e.g., see Figure 1.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 1.1.

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2017a) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

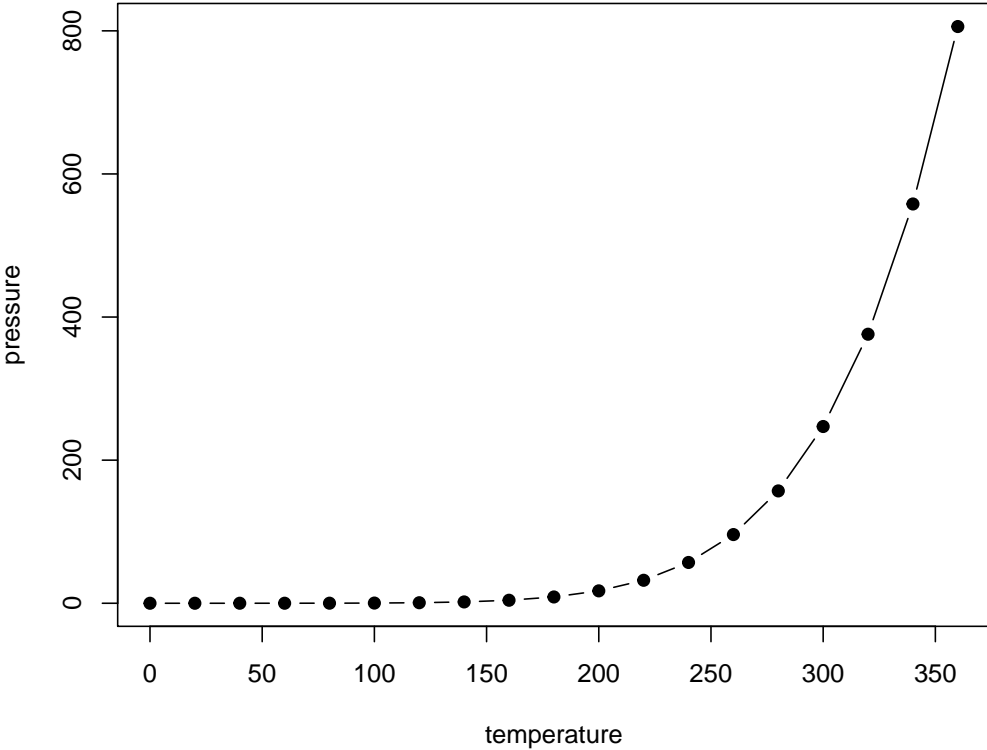


Figure 1.1: Here is a nice figure!

Table 1.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa



## Chapter 2

# Literature

Here is a review of existing methods.



**Part II**

**Part Two**



## Chapter 3

# Methods

We describe our methods in this chapter.  
add more random text .



## Chapter 4

# Applications

Some *significant* applications are demonstrated in this chapter.

### 4.1 Example one

### 4.2 Example two





## Chapter 5

# Final Words

We have finished a nice book .  
some random text



## Part III

# Appendix



# Appendix A

## First appendix section

We have finished a nice book .  
some random text



## Appendix B

### another appendix section

We have finished a nice book .  
some random text





# Bibliography

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# Index

bookdown, 15

knitr, 15

Nice Book, 25, 29, 31

R Markdown, 15

random, 25, 29, 31

Some Methods, 21

text, 21