

R for the Excel User

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Chapter 1

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:

```
install.packages("bookdown")  
# or the development version  
# devtools::install_github("rstudio/bookdown")
```

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 XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): <https://yihui.name/tinytex/>.

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 5.

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

```
par(mar = c(4, 4, .1, .1))  
plot(pressure, type = 'b', pch = 19)
```

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.

```
knitr::kable(  
  head(iris, 20), caption = 'Here is a nice table!',  
  booktabs = TRUE  
)
```

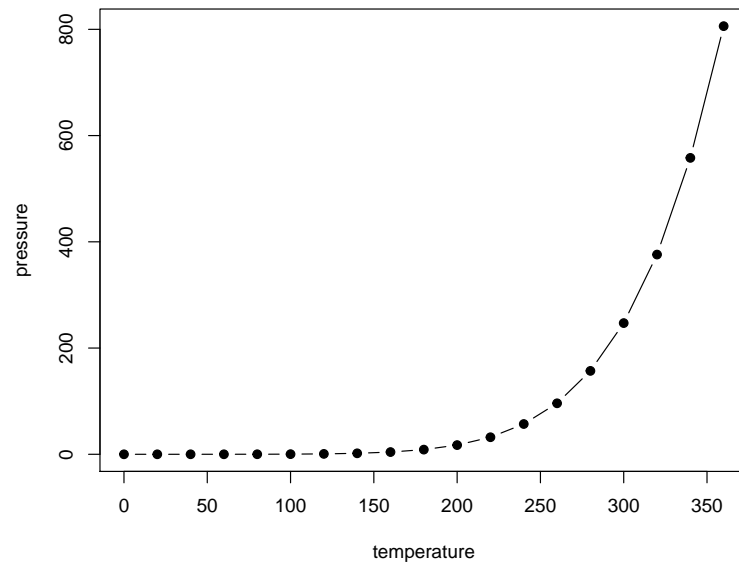


Figure 1.1: Here is a nice figure!

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2019) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

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

Overview

References Brainstorm

- Broman & Woo 2017: <https://www.tandfonline.com/doi/full/10.1080/00031305.2017.1375989>

Chapter 3

RMarkdown

- 3.1 Summary (a few sentences)
- 3.2 Objectives (more detailed, bulletpoints?)
- 3.3 Resources
- 3.4 Lessons teaching for each objective..... (objectives, examples)
- 3.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)
- 3.6 Interludes (deep thoughts/openscapes)
- 3.7 Our Turn Your Turn 1
- 3.8 Our Turn Your Turn 2
- 3.9 Efficiency Tips

Chapter 4

Excel, Meet R

- 4.1 Summary (a few sentences)
- 4.2 Objectives (more detailed, bulletpoints?)
- 4.3 Resources
- 4.4 Lessons teaching for each objective..... (objectives, examples)
- 4.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)
- 4.6 Interludes (deep thoughts/openscapes)
- 4.7 Our Turn Your Turn 1
- 4.8 Our Turn Your Turn 2
- 4.9 Efficiency Tips

Chapter 5

`readxl`

Note for Allison: the `{#readxl}` above lets us reference it from another chapter...not sure how much we'll use it but it's possible (and doesn't hurt to have)

- 5.1 Summary (a few sentences)
- 5.2 Objectives (more detailed, bulletpoints?)
- 5.3 Resources
- 5.4 Lessons teaching for each objective..... (objectives, examples)
- 5.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)
- 5.6 Interludes (deep thoughts/openscapes)
- 5.7 Our Turn Your Turn 1
- 5.8 Our Turn Your Turn 2
- 5.9 Efficiency Tips

Chapter 6

Data Import

- 6.1 Summary (a few sentences)
- 6.2 Objectives (more detailed, bulletpoints?)
- 6.3 Resources
- 6.4 Lessons teaching for each objective..... (objectives, examples)
- 6.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)
- 6.6 Interludes (deep thoughts/openscapes)
- 6.7 Our Turn Your Turn 1
- 6.8 Our Turn Your Turn 2
- 6.9 Efficiency Tips

Chapter 7

Better practices

- 7.1 Summary (a few sentences)
- 7.2 Objectives (more detailed, bulletpoints?)
- 7.3 Resources
- 7.4 Lessons teaching for each objective..... (objectives, examples)
- 7.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)
- 7.6 Interludes (deep thoughts/openscapes)
- 7.7 Our Turn Your Turn 1
- 7.8 Our Turn Your Turn 2
- 7.9 Efficiency Tips

Chapter 8

Outputting files & collaborating

8.1 Summary (a few sentences)

8.2 Objectives (more detailed, bulletpoints?)

8.3 Resources

8.4 Lessons teaching for each objective..... (objectives, examples)

8.5 Fun facts (quirky things) - making a note of these wherever possible for interest (little “Did you know?” sections)

8.6 Interludes (deep thoughts/openscapes)

8.7 Our Turn Your Turn 1

8.8 Our Turn Your Turn 2

8.9 Efficiency Tips

Bibliography

Xie, Y. (2015). *Dynamic Documents with R and knitr*. Chapman and Hall/CRC, Boca Raton, Florida, 2nd edition. ISBN 978-1498716963.

Xie, Y. (2019). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.11.