

A Mini Data Science book

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Chapter 1

Hello! World!

```
library(here) knitr::opts_knit$set(root.dir = here::here())
```

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/>.

Chapter 2

Introduction

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 4.

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

```
head(mtcars)
```

```
##           mpg  cyl  disp  hp  drat    wt   qsec vs  am  gear  carb
## Mazda RX4      21.0   6  160 110  3.90  2.620 16.46  0   1    4    4
## Mazda RX4 Wag  21.0   6  160 110  3.90  2.875 17.02  0   1    4    4
## Datsun 710      22.8   4  108  93  3.85  2.320 18.61  1   1    4    1
## Hornet 4 Drive  21.4   6  258 110  3.08  3.215 19.44  1   0    3    1
## Hornet Sportabout 18.7   8  360 175  3.15  3.440 17.02  0   0    3    2
## Valiant        18.1   6  225 105  2.76  3.460 20.22  1   0    3    1
```

```
mean(mtcars$cyl)
```

```
## [1] 6.1875
```

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2018) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

Chapter 3

Literature

Here is a review of existing methods.

Chapter 4

Methods

We describe our methods in this chapter.

Chapter 5

Applications

Some *significant* applications are demonstrated in this chapter.

5.1 Example one

5.2 Example two

Chapter 6

Final Words

We have finished a nice book.

Bibliography

- Xie, Y. (2015). *Dynamic Documents with R and knitr*. Chapman and Hall/CRC, Boca Raton, Florida, 2nd edition. ISBN 978-1498716963.
- Xie, Y. (2018). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.7.