A Minimal Book Example

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Contents

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/.

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.

```
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 2.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 2.1.

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

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2020) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

2.1 Here adding new test

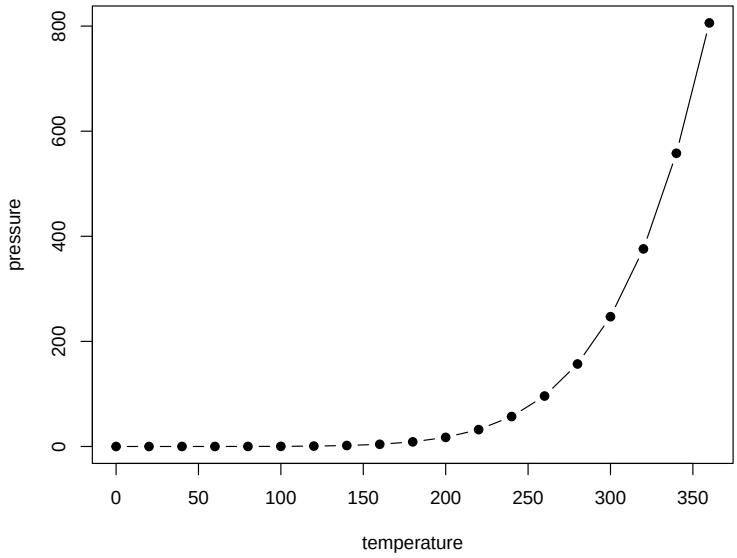

Figure 2.1: Here is a nice figure!

Table 2.1: 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

```
library(pins)
board_register(name = "pins_board", url = "https://raw.githubusercontent.com/predictcrypto/pins/m
cryptodata <- pin_get(name = "hitBTC_orderbook")
```

Show data

```
cryptodata
```

```
## # A tibble: 242,218 x 27
##    pair  symbol quote_currency ask_1_price ask_1_quantity ask_2_price ask_2_quantity ask_3_pri
##    <chr> <chr>  <chr>                <dbl>          <dbl>       <dbl>          <dbl>       <db
##  1 BTCU~ BTC    USD              15685.               2     15685.           0.000140  15685.
##  2 ETHU~ ETH    USD                463.               0.4     463.           0.549       463.
##  3 EOSU~ EOS    USD                  2.50            60         2.50        62.8           2.50
##  4 LTCU~ LTC    USD                 59.3             3.75      59.3         60            59.3
##  5 BSVU~ BSV    USD                159.              0.6     159.          18           159.
##  6 ADAU~ ADA    USD                  0.106          775         0.106     2635             0.10
##  7 ZECU~ ZEC    USD                 58.9            10        58.9          2.6          58.9
##  8 TRXU~ TRX    USD                  0.0250        1050         0.0250   62755             0.02
##  9 HTUSD HT     USD                  3.66           100.        3.67      1394.            3.67
## 10 XMRU~ XMR    USD                113.              2.65    113.           5.54        113.
## # ... with 242,208 more rows, and 18 more variables: ask_4_price <dbl>, ask_4_quantity <dbl>,
## #   ask_5_quantity <dbl>, bid_1_price <dbl>, bid_1_quantity <dbl>, bid_2_price <dbl>, bid_2_qu
## #   bid_3_price <dbl>, bid_3_quantity <dbl>, bid_4_price <dbl>, bid_4_quantity <dbl>, bid_5_pr
## #   bid_5_quantity <dbl>, date_time_utc <dttm>, date <date>, pkDummy <chr>, pkey <chr>
```

Show nested data

```
library(tidyverse)
cryptodata <- group_by(cryptodata, symbol)
nest(cryptodata)
```

```
## # A tibble: 218 x 2
## # Groups:   symbol [218]
##    symbol data
##    <chr>  <list>
##  1 BTC    <tibble [2,272 x 26]>
##  2 ETH    <tibble [1,396 x 26]>
##  3 EOS    <tibble [2,225 x 26]>
##  4 LTC    <tibble [2,272 x 26]>
##  5 BSV    <tibble [1,515 x 26]>
##  6 ADA    <tibble [1,158 x 26]>
##  7 ZEC    <tibble [1,113 x 26]>
```

```
##  8 TRX    <tibble [1,493 x 26]>
##  9 HT     <tibble [2,207 x 26]>
## 10 XMR    <tibble [2,266 x 26]>
## # ... with 208 more rows
```

What does DT look like

```
library(DT)
cryptodata
```

```
## # A tibble: 242,218 x 27
## # Groups:   symbol [218]
##    pair  symbol quote_currency ask_1_price ask_1_quantity ask_2_price ask_2_quantity
##    <chr> <chr>  <chr>                <dbl>          <dbl>       <dbl>          <dbl>
##  1 BTCU~ BTC    USD              15685.               2     15685.           0.000140
##  2 ETHU~ ETH    USD                463.               0.4     463.           0.549
##  3 EOSU~ EOS    USD                  2.50            60         2.50        62.8
##  4 LTCU~ LTC    USD                 59.3              3.75     59.3          60
##  5 BSVU~ BSV    USD                159.               0.6     159.           18
##  6 ADAU~ ADA    USD                  0.106          775         0.106      2635
##  7 ZECU~ ZEC    USD                 58.9              10        58.9           2.6
##  8 TRXU~ TRX    USD                  0.0250        1050         0.0250    62755
##  9 HTUSD HT     USD                  3.66           100.        3.67       1394.
## 10 XMRU~ XMR    USD                113.                 2.65    113.            5.54
## # ... with 242,208 more rows, and 18 more variables: ask_4_price <dbl>, ask_4_quanti
## #   ask_5_quantity <dbl>, bid_1_price <dbl>, bid_1_quantity <dbl>, bid_2_price <dbl>
## #   bid_3_price <dbl>, bid_3_quantity <dbl>, bid_4_price <dbl>, bid_4_quantity <dbl>
## #   bid_5_quantity <dbl>, date_time_utc <dttm>, date <date>, pkDummy <chr>, pkey <ch
```

And nested

```
nest(cryptodata)
```

```
## # A tibble: 218 x 2
## # Groups:   symbol [218]
##    symbol data
##    <chr>  <list>
##  1 BTC    <tibble [2,272 x 26]>
##  2 ETH    <tibble [1,396 x 26]>
##  3 EOS    <tibble [2,225 x 26]>
##  4 LTC    <tibble [2,272 x 26]>
##  5 BSV    <tibble [1,515 x 26]>
##  6 ADA    <tibble [1,158 x 26]>
##  7 ZEC    <tibble [1,113 x 26]>
```

```
##  8 TRX    <tibble [1,493 x 26]>
##  9 HT     <tibble [2,207 x 26]>
## 10 XMR    <tibble [2,266 x 26]>
## # ... with 208 more rows
```

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. (2020). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.21.