R na Cozinha

Paulo Guilherme Pinheiro dos Santos

29 de junho de 2021

Sumário

Capítulo 1

Apresentação

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

Capítulo 2

Introdução

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)
```

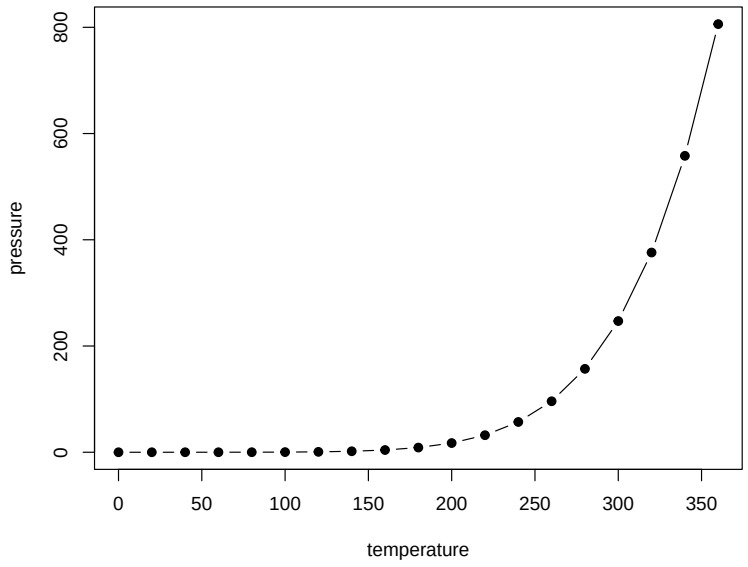

Figura 2.1: Here is a nice figure!

Tabela 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

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, 2021) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

Capítulo 3

Matemática básica no R

Aqui mostramos como executar algumas operações aritméticas básicas e algumas funções no R. Trazemos os códigos e ao final um vídeo explicativo com todas as operações listadas.

```
# Soma:
1+3
10+2

# Subtração:
5-2
10-2
2-10

# Multiplicação;
2*3
7*4

# Potenciação
2^3
4^4
2**3
4**4

# Divisão;
8/2
10/3

# Quociente da divisão; parte inteira: %/%
10%/%3
```

```
# Resto da divisão: %%
10%%3

# Módulo:
abs(-3)
abs(8)
abs(-10)

# Logarítmo:
log(2)
log(2,10)
log10(2)
?log
help(log)
log(2,exp(1))
log

# Exponencial:
exp(1)
exp(3)
exp(0)

# Pi
pi

# Funções Trigonométricas:
?sin
sin(pi/2)
sinpi(1/2)
cos(pi/2)
cos(pi)
cos(0)
tan(pi/4)
sin(pi/4)/cos(pi/4)

# Fatorial:
factorial(4)
4*3*2*1

# Combinações:
choose(10,2)
10*9/factorial(2)
factorial(10)/(factorial(10-2)*factorial(2))

# Somatórios:
```

```r
x = 3:13
x
sum(x)
cumsum(x)
max(cumsum(x))
x |> cumsum() |> max()

# Produtórios:
x |> prod()
prod(x)
```

Link da aula Matemática Básica no R:

Capítulo 4

Methods

We describe our methods in this chapter.

Capítulo 5

A gramática dos gráficos

Some *significant* applications are demonstrated in this chapter.

5.1 Example one

5.2 Example two

Capítulo 6

Final Words

We have finished a nice book.

Referências

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

Xie, Y. (2021). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.22.