A Minimal Book Example

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Contents

Chapter 1

12 Groups

```
library(datasauRus)
head(datasauRus::datasaurus_dozen, n= 50)
#>    dataset       x        y
#> 1     dino 55.3846 97.1795
#> 2     dino 51.5385 96.0256
#> 3     dino 46.1538 94.4872
#> 4     dino 42.8205 91.4103
#> 5     dino 40.7692 88.3333
#> 6     dino 38.7179 84.8718
#> 7     dino 35.6410 79.8718
#> 8     dino 33.0769 77.5641
#> 9     dino 28.9744 74.4872
#> 10    dino 26.1538 71.4103
#> 11    dino 23.0769 66.4103
#> 12    dino 22.3077 61.7949
#> 13    dino 22.3077 57.1795
#> 14    dino 23.3333 52.9487
#> 15    dino 25.8974 51.0256
#> 16    dino 29.4872 51.0256
#> 17    dino 32.8205 51.0256
#> 18    dino 35.3846 51.4103
#> 19    dino 40.2564 51.4103
#> 20    dino 44.1026 52.9487
#> 21    dino 46.6667 54.1026
#> 22    dino 50.0000 55.2564
#> 23    dino 53.0769 55.6410
#> 24    dino 56.6667 56.0256
#> 25    dino 59.2308 57.9487
```

```
#> 26    dino 61.2821 62.1795
#> 27    dino 61.5385 66.4103
#> 28    dino 61.7949 69.1026
#> 29    dino 57.4359 55.2564
#> 30    dino 54.8718 49.8718
#> 31    dino 52.5641 46.0256
#> 32    dino 48.2051 38.3333
#> 33    dino 49.4872 42.1795
#> 34    dino 51.0256 44.1026
#> 35    dino 45.3846 36.4103
#> 36    dino 42.8205 32.5641
#> 37    dino 38.7179 31.4103
#> 38    dino 35.1282 30.2564
#> 39    dino 32.5641 32.1795
#> 40    dino 30.0000 36.7949
#> 41    dino 33.5897 41.4103
#> 42    dino 36.6667 45.6410
#> 43    dino 38.2051 49.1026
#> 44    dino 29.7436 36.0256
#> 45    dino 29.7436 32.1795
#> 46    dino 30.0000 29.1026
#> 47    dino 32.0513 26.7949
#> 48    dino 35.8974 25.2564
#> 49    dino 41.0256 25.2564
#> 50    dino 44.1026 25.6410
tail(datasauRus::datasaurus_dozen, n= 50)
#>         dataset        x          y
#> 1797 wide_lines 77.06711 51.4869182
#> 1798 wide_lines 75.01714 46.6224426
#> 1799 wide_lines 76.66531 38.4402510
#> 1800 wide_lines 77.91587 45.9268434
#> 1801 wide_lines 73.74205 39.1209853
#> 1802 wide_lines 75.32982 32.8303519
#> 1803 wide_lines 63.41044 38.3777356
#> 1804 wide_lines 68.85649 43.0841472
#> 1805 wide_lines 66.33779 33.3065100
#> 1806 wide_lines 64.20372 26.6441143
#> 1807 wide_lines 64.49863 22.8635013
#> 1808 wide_lines 68.89099 27.2962057
#> 1809 wide_lines 72.37152 21.9616397
#> 1810 wide_lines 69.76542 19.9998505
#> 1811 wide_lines 68.62131 18.9156764
#> 1812 wide_lines 64.29774 20.4287497
#> 1813 wide_lines 66.69927 18.5910853
#> 1814 wide_lines 67.54453 16.4479381
```

```
#> 1815 wide_lines 63.94695 18.6928454
#> 1816 wide_lines 64.38819 15.7728123
#> 1817 wide_lines 65.57005 23.7657582
#> 1818 wide_lines 38.40284 19.0468587
#> 1819 wide_lines 37.83236 14.4694894
#> 1820 wide_lines 36.90416 13.5838158
#> 1821 wide_lines 36.28614 17.1057707
#> 1822 wide_lines 62.78663 13.9189931
#> 1823 wide_lines 66.81768 11.4124972
#> 1824 wide_lines 66.75502 18.0853051
#> 1825 wide_lines 65.41553 10.4635122
#> 1826 wide_lines 36.94633 13.5143775
#> 1827 wide_lines 37.82543  9.6010343
#> 1828 wide_lines 36.72284  9.3333021
#> 1829 wide_lines 67.07332  6.0492146
#> 1830 wide_lines 64.60182 12.0019170
#> 1831 wide_lines 65.43728 15.5453861
#> 1832 wide_lines 67.00402 15.3458266
#> 1833 wide_lines 66.72419  5.2498055
#> 1834 wide_lines 68.30762 13.2809165
#> 1835 wide_lines 68.76805 13.5214566
#> 1836 wide_lines 74.16727  5.3498809
#> 1837 wide_lines 64.90036 16.2452584
#> 1838 wide_lines 68.76343  8.7005729
#> 1839 wide_lines 66.81691 12.2732943
#> 1840 wide_lines 67.30935  0.2170063
#> 1841 wide_lines 34.73183 19.6017951
#> 1842 wide_lines 33.67444 26.0904902
#> 1843 wide_lines 75.62726 37.1287519
#> 1844 wide_lines 40.61013 89.1362399
#> 1845 wide_lines 39.11437 96.4817513
#> 1846 wide_lines 34.58383 89.5889020
```

Chapter 2

Hello bookdown

All chapters start with a first-level heading followed by your chapter title, like the line above. There should be only one first-level heading (`#`) per .Rmd file.

2.1 A section

All chapter sections start with a second-level (`##`) or higher heading followed by your section title, like the sections above and below here. You can have as many as you want within a chapter.

An unnumbered section

Chapters and sections are numbered by default. To un-number a heading, add a `{.unnumbered}` or the shorter `{-}` at the end of the heading, like in this section.

Chapter 3

Parts

You can add parts to organize one or more book chapters together. Parts can be inserted at the top of an .Rmd file, before the first-level chapter heading in that same file.

Add a numbered part: `# (PART) Act one {-}` (followed by `# A chapter`)

Add an unnumbered part: `# (PART\*) Act one {-}` (followed by `# A chapter`)

Add an appendix as a special kind of un-numbered part: `# (APPENDIX) Other stuff {-}` (followed by `# A chapter`). Chapters in an appendix are prepended with letters instead of numbers.

Chapter 4

Footnotes and citations

4.1 Footnotes

Footnotes are put inside the square brackets after a caret `^[]`. Like this one [1].

4.2 Citations

Reference items in your bibliography file(s) using `@key`.

For example, we are using the **bookdown** package (Xie, 2022) (check out the last code chunk in index.Rmd to see how this citation key was added) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015) (this citation was added manually in an external file book.bib). Note that the `.bib` files need to be listed in the index.Rmd with the YAML `bibliography` key.

The `bs4_book` theme makes footnotes appear inline when you click on them. In this example book, we added `csl: chicago-fullnote-bibliography.csl` to the `index.Rmd` YAML, and include the `.csl` file. To download a new style, we recommend: https://www.zotero.org/styles/

The RStudio Visual Markdown Editor can also make it easier to insert citations: https://rstudio.github.io/visual-markdown-editing/#/citations

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[1] This is a footnote.

Chapter 5

Blocks

5.1 Equations

Here is an equation.

$$f(k) = \binom{n}{k} p^k (1-p)^{n-k} \tag{5.1}$$

You may refer to using `\@ref(eq:binom)`, like see Equation (5.1).

5.2 Theorems and proofs

Labeled theorems can be referenced in text using `\@ref(thm:tri)`, for example, check out this smart theorem 5.1.

Theorem 5.1. *For a right triangle, if c denotes the* length *of the hypotenuse and a and b denote the lengths of the **other** two sides, we have*

$$a^2 + b^2 = c^2$$

Read more here https://bookdown.org/yihui/bookdown/markdown-extensions-by-bookdown.html.

5.3 Callout blocks

The `bs4_book` theme also includes special callout blocks, like this `.rmdnote`.

You can use **markdown** inside a block.

```
head(beaver1, n = 5)
#>   day time  temp activ
#> 1 346  840 36.33     0
#> 2 346  850 36.34     0
#> 3 346  900 36.35     0
#> 4 346  910 36.42     0
#> 5 346  920 36.55     0
```

It is up to the user to define the appearance of these blocks for LaTeX output.

You may also use: `.rmdcaution`, `.rmdimportant`, `.rmdtip`, or `.rmdwarning` as the block name.

The R Markdown Cookbook provides more help on how to use custom blocks to design your own callouts: https://bookdown.org/yihui/rmarkdown-cookbook/custom-blocks.html

Chapter 6

Sharing your book

6.1 Publishing

HTML books can be published online, see: https://bookdown.org/yihui/bookdown/publishing.html

6.2 404 pages

By default, users will be directed to a 404 page if they try to access a webpage that cannot be found. If you'd like to customize your 404 page instead of using the default, you may add either a `_404.Rmd` or `_404.md` file to your project root and use code and/or Markdown syntax.

6.3 Metadata for sharing

Bookdown HTML books will provide HTML metadata for social sharing on platforms like Twitter, Facebook, and LinkedIn, using information you provide in the `index.Rmd` YAML. To setup, set the `url` for your book and the path to your `cover-image` file. Your book's `title` and `description` are also used.

This `bs4_book` provides enhanced metadata for social sharing, so that each chapter shared will have a unique description, auto-generated based on the content.

Specify your book's source repository on GitHub as the `repo` in the `_output.yml` file, which allows users to view each chapter's source file or suggest an edit. Read more about the features of this output format here:

https://pkgs.rstudio.com/bookdown/reference/bs4_book.html

Or use:

```
?bookdown::bs4_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. (2022). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.25.