BS4 Book Template

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0.1 About this book

Please read the last chapter for the usage and other information included in the original template in English.

In the following we add comments in Japanese.

0.1.1 日本語版テンプレートについて

GitHub レポジトリ の、README を参照してください。

最初に、変更すべき点を以下に書きます。

1. README.md を、ご自分の本にあうように書き換えてください。このテンプレートのリポジトリに、README はありますので、必要な時は参照してください。

2. bookdown.yml の最初の行、`book_filename: "bs4_book_template"` を、書き換えてください。現在は、リポジトリの名前になっています。

3. output.yml の５行目の、`repo: https://github.com/icu-hsuzuki/bs4_book_template` を、ご自分のリポジトリのアドレスに変更して下さい。`bs4_book` のスタイルでは、このアドレスが、左の帯の一番下に表示され、リポジトリにリンクされます。

4. `index.html` には、YAML と呼ばれる、設定が、書かれていますが、まず、title と author がありますから、それらを、ご自身の本のタイトルと、ご自身の名前に変更してください。

5. `url` と `cover-image` が、コメントアウトされています。`url` は、リポジトリのアドレスではなく、公開される、サイトのアドレスです。`cover-image` はなければ、加える必要はありません。

6. `description` を、ご自身の本にあう形に、書き換えてください。

7. index.Rmd と、01-intro.Rmd から書き換えていってください。大枠が決まるまでは、わたしは、01-intro.Rmd, 11-part2.Rmd などと、すこし、間をあけて、番号をふったファイルを作り、書いていっています。章番号は、順番は変えずに、自動的に続き番号になります。むろん、あとから、変更することも可能ですが、`docs` 内に、さまざまなファイルが生成されますので、ある程度、計画的に、ファイルを作成していった方がよいように思います。

0.1.1.1 備考

- 章や節に、ラベルはつける必要はありませんが、日本語の場合には、リンクが特殊文字を含む形式になりますので、99-bookdown.Rmd の章にあるように、少なくとも、章のラベルは、英数でつけておくことをお勧めします。
- `bookdown` の本に何度も書かれていますが、PDF や、ePub は、ページの概念があり、複雑ですから、まず、基本的な内容を書き終わるまでは、output.yml の bookdown::pdf_book 以下の行をすべて、コメントアウトし（RStudio の場合は、ハイライトさせ、メニューバーの Code の Comment/Uncomment Lines を使えば、簡単にできます。）Book の build の時間も短くなります。
- PDF を作成するときには、必要に応じて、`preamble.tex` に、情報を加えたり、フォントを追加してください。

0.2 Introduction

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.

すべての、章は、シャープ一つの第一レベルの見出しからはじめ、ひとつの.Rmd ファイルには、第一レベルの見出しは一つとなっています。

次のレベルは、節で、シャープ二つとなります。ラベルはつけなくても、節名などから、自動的に、作成されますが、日本語の場合には、特殊文字なども含まれるので、あとで、引用することを考えて、わたしは、少なくとも章については、英数でラベルをつけておくことにしています。

0.2.1   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.

節番号などをつけたくない時は、次の行のようにします。

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.

0.3   Bookdown

0.3.1   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.

0.3.1.1   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.

0.3.2   Cross-references

Cross-references make it easier for your readers to find and link to elements in your book.

0.3.2.1   Chapters and sub-chapters

There are two steps to cross-reference any heading:

1. Label the heading: `# Hello world {#nice-label}`.
   - Leave the label off if you like the automated heading generated based on your heading title: for example, `# Hello world` = `# Hello world {#hello-world}`.

- To label an un-numbered heading, use: `# Hello world {-#nice-label}` or `{# Hello world .unnumbered}`.

2. Next, reference the labeled heading anywhere in the text using `\@ref(nice-label)`; for example, please see Chapter 0.3.2.
   - If you prefer text as the link instead of a numbered reference use: any text you want can go here.

0.3.2.2   Captioned figures and tables

Figures and tables *with captions* can also be cross-referenced from elsewhere in your book using `\@ref(fig:chunk-label)` and `\@ref(tab:chunk-label)`, respectively.

See Figure 1.

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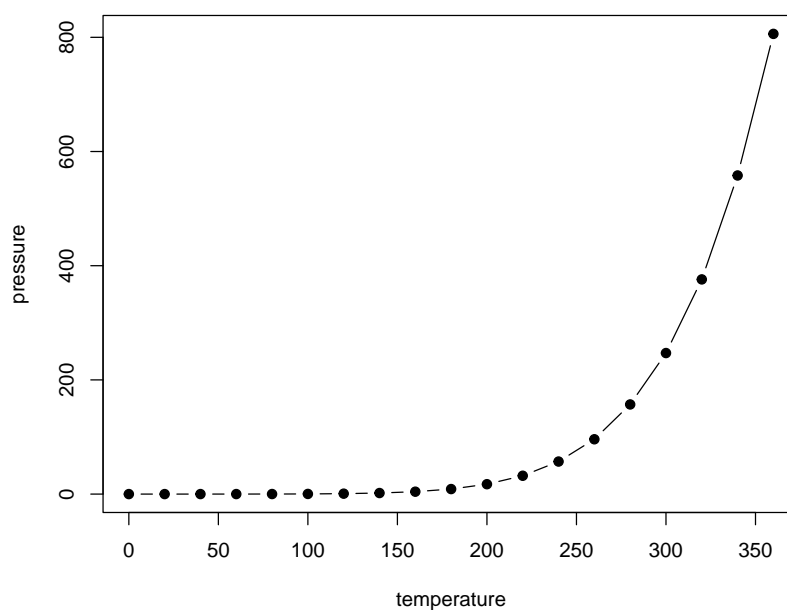

図1   Here is a nice figure!

Don't miss Table 1.

```r
knitr::kable(
  head(pressure, 10), caption = 'Here is a nice table!',
  booktabs = TRUE
)
```

0.3.3   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

表1   Here is a nice table!

temperature	pressure
0	0.0002
20	0.0012
40	0.0060
60	0.0300
80	0.0900
100	0.2700
120	0.7500
140	1.8500
160	4.2000
180	8.8000

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.

0.3.4   Footnotes and citations

0.3.4.1   Footnotes

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

0.3.4.2   Citations

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

For example, we are using the **bookdown** package (Xie, 2023) (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

---

[1] This is a footnote.

`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

0.3.5 Blocks

0.3.5.1 Equations

Here is an equation.

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

You may refer to using `\@ref(eq:binom)`, like see Equation (1).

0.3.5.2 Theorems and proofs

Labeled theorems can be referenced in text using `\@ref(thm:tri)`, for example, check out this smart theorem 0.3.1.

Theorem 0.3.1. *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.

0.3.5.3 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

0.3.6   Sharing your book

0.3.6.1   Publishing

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

0.3.6.2   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.

0.3.6.3   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
```

参考文献

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

Xie, Y. (2023). *bookdown: Authoring Books and Technical Documents with R Markdown.* R package version 0.32.