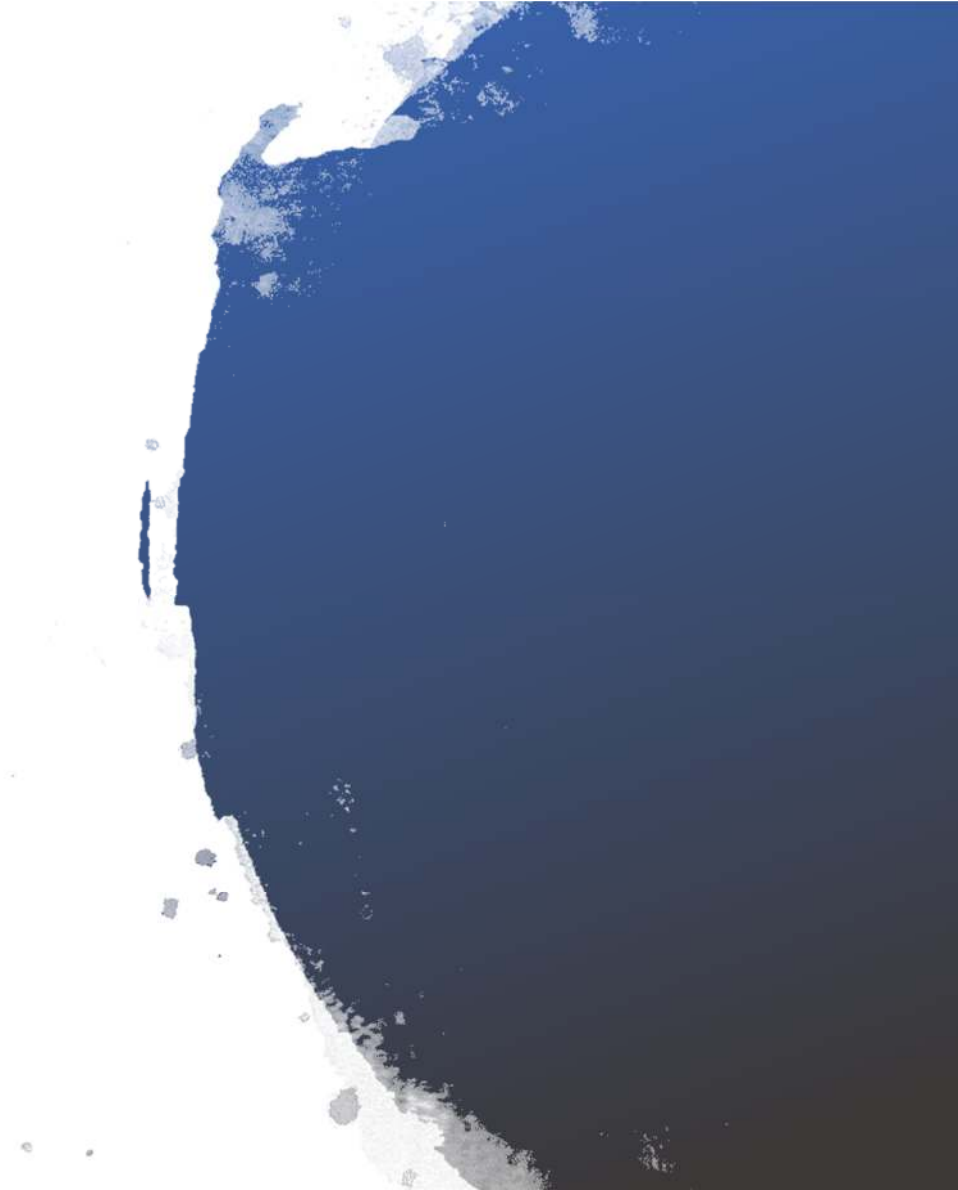


Pengembangan Bahan Ajar Online Berbasis Bookdown



Instalation

Software

- Rstudio
- Tinytex (for pdf)

R Packages

- Rmarkdown
- Bookdown
- Tinytex



Installing Tinytex

- **Write R code**
`install.packages('tinytex')`
- **Write R code** `tinytex::install_tinytex()`
- **Close Rstudio**
- **Open Rstudio**

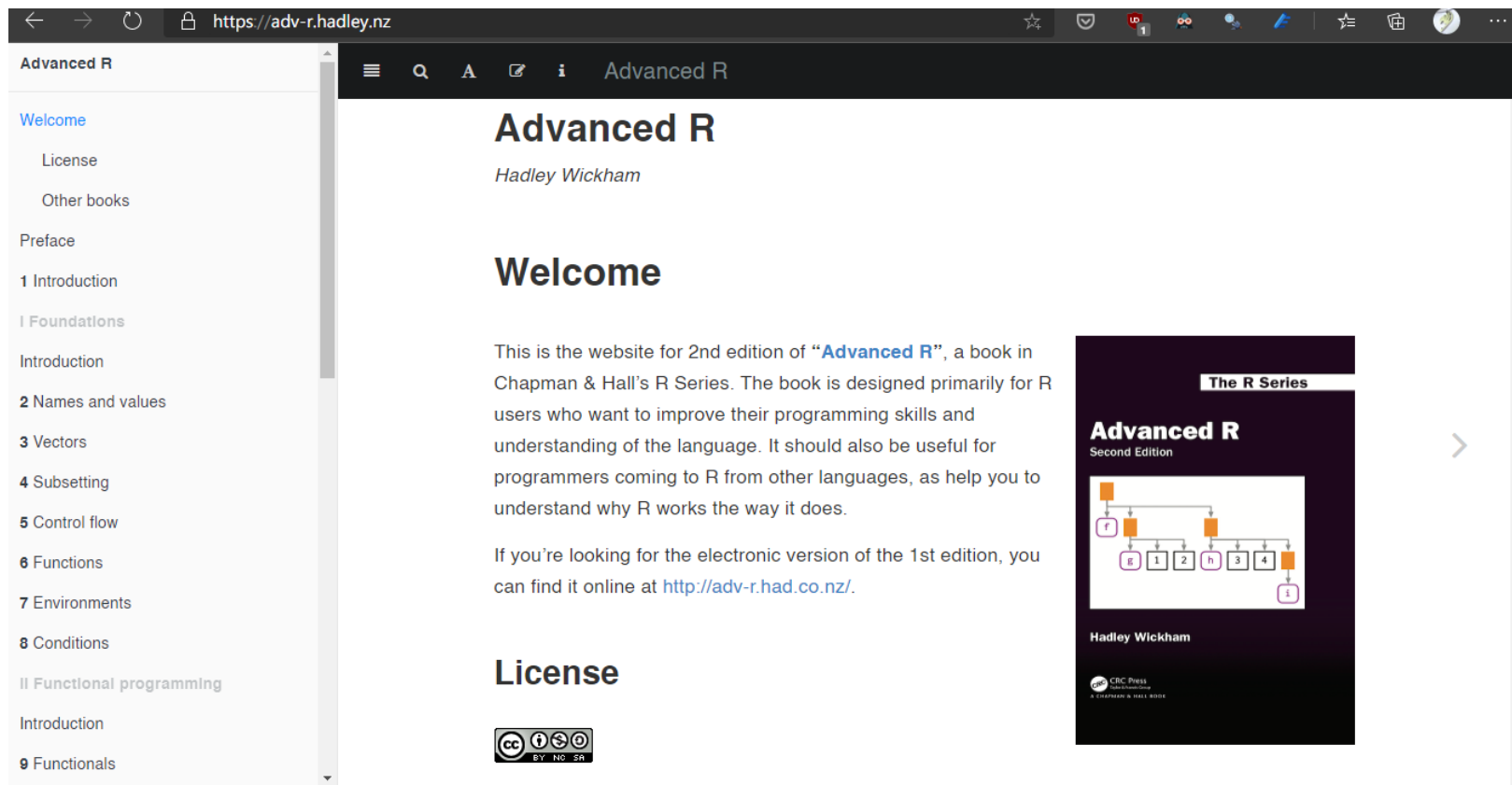
Introduction

- **bookdown** merupakan R package yang dapat menghasilkan buku
- Format buku yang dihasilkan : gitbook, pdf dan word
- **bookdown** didasarkan pada package **rmarkdown**

- **rmarkdown** merupakan R package yang dapat digunakan menulis suatu dokumen dengan R
- **rmarkdown** sendiri ditulis dalam bahasa **markdown**
- **Markdown** merupakan **markup language** yang digunakan untuk menulis dokumen. Contoh markup language : **latex**, **Microsoft word**.
- **rmarkdown** dapat di-export menjadi beberapa format: **html**, **pdf**, **Microsoft word**, **powerpoint**.

Examples

<https://adv-r.hadley.nz/>



The screenshot shows a web browser displaying the 'Advanced R' website. The browser's address bar shows the URL 'https://adv-r.hadley.nz/'. The website has a dark header with the title 'Advanced R' and a search icon. A left sidebar contains a table of contents with links to 'Welcome', 'License', 'Other books', 'Preface', '1 Introduction', 'I Foundations', 'Introduction', '2 Names and values', '3 Vectors', '4 Subsetting', '5 Control flow', '6 Functions', '7 Environments', '8 Conditions', 'II Functional programming', 'Introduction', and '9 Functionals'. The main content area features the title 'Advanced R' by Hadley Wickham, a 'Welcome' section with a paragraph about the book's purpose, a link to the 1st edition, and a 'License' section with a Creative Commons BY-NC-SA logo. On the right, there is a book cover for 'Advanced R, Second Edition' by Hadley Wickham, published by CRC Press, which includes a diagram of the R language structure.

Advanced R

Welcome

License

Other books

Preface

1 Introduction

I Foundations

Introduction

2 Names and values

3 Vectors

4 Subsetting

5 Control flow

6 Functions

7 Environments

8 Conditions

II Functional programming

Introduction

9 Functionals

Advanced R


Hadley Wickham

Welcome

This is the website for 2nd edition of “**Advanced R**”, a book in Chapman & Hall’s R Series. The book is designed primarily for R users who want to improve their programming skills and understanding of the language. It should also be useful for programmers coming to R from other languages, as help you to understand why R works the way it does.

If you’re looking for the electronic version of the 1st edition, you can find it online at <http://adv-r.had.co.nz/>.

License



The R Series

Advanced R

Second Edition

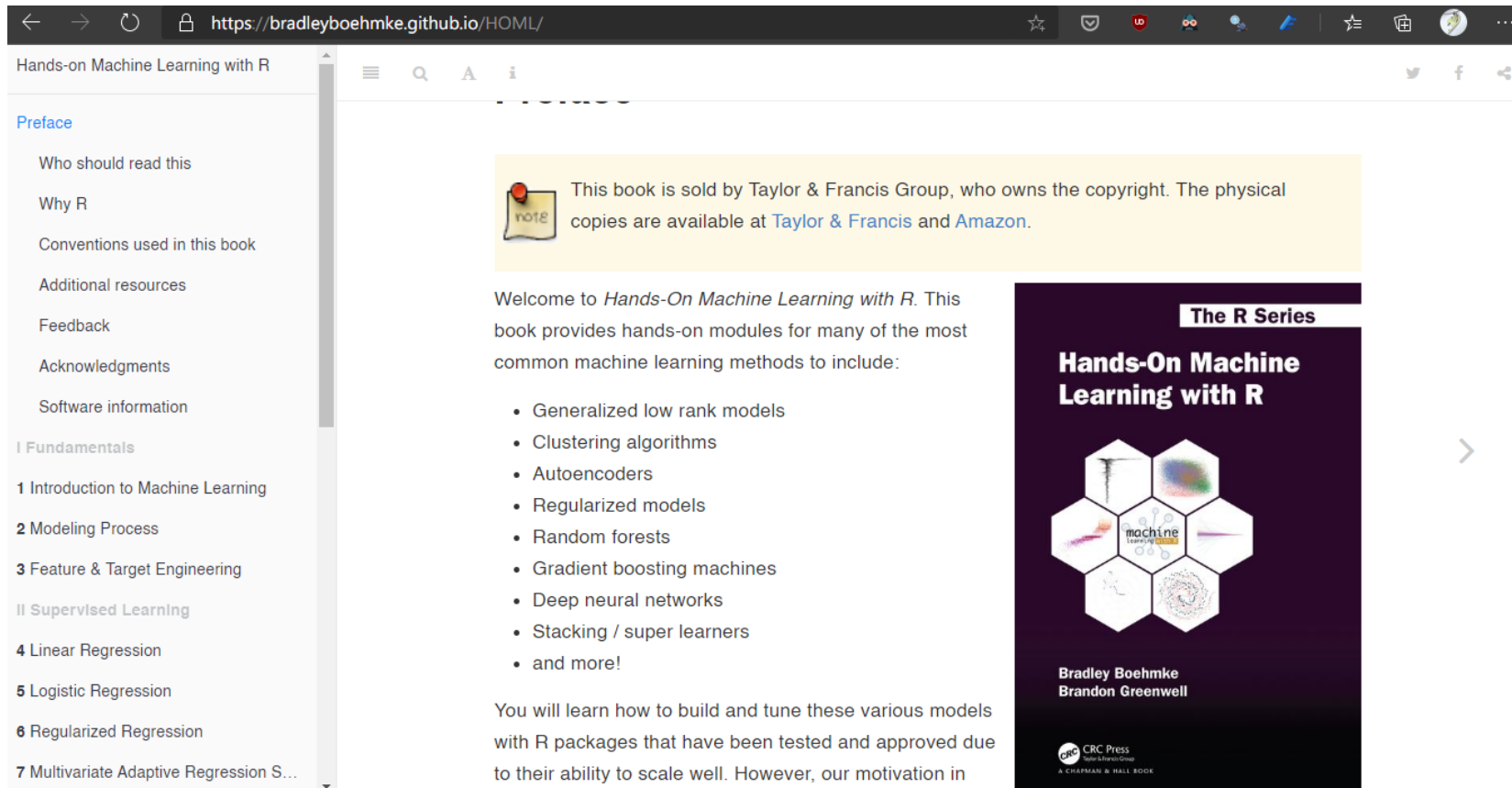
Hadley Wickham

CRC Press

A CHAPMAN & HALL BOOK

Examples

<https://bradleyboehmke.github.io/HOML/>



The screenshot shows a web browser displaying the homepage of the 'Hands-on Machine Learning with R' website. The browser's address bar shows the URL <https://bradleyboehmke.github.io/HOML/>. The website has a dark-themed header with navigation icons. A left sidebar contains a table of contents with sections like 'Preface', 'Fundamentals', and 'Supervised Learning'. The main content area features a yellow notice box about copyright, a welcome message, a bulleted list of machine learning topics, and a book cover for 'Hands-On Machine Learning with R' by Bradley Boehmke and Brandon Greenwell. The book cover is dark purple with a hexagonal grid of plots and the title in white and yellow text.

Hands-on Machine Learning with R

[Preface](#)

- Who should read this
- Why R
- Conventions used in this book
- Additional resources
- Feedback
- Acknowledgments
- Software information

I Fundamentals

- 1 Introduction to Machine Learning
- 2 Modeling Process
- 3 Feature & Target Engineering

II Supervised Learning

- 4 Linear Regression
- 5 Logistic Regression
- 6 Regularized Regression
- 7 Multivariate Adaptive Regression S...

This book is sold by Taylor & Francis Group, who owns the copyright. The physical copies are available at [Taylor & Francis](#) and [Amazon](#).

Welcome to *Hands-On Machine Learning with R*. This book provides hands-on modules for many of the most common machine learning methods to include:

- Generalized low rank models
- Clustering algorithms
- Autoencoders
- Regularized models
- Random forests
- Gradient boosting machines
- Deep neural networks
- Stacking / super learners
- and more!

You will learn how to build and tune these various models with R packages that have been tested and approved due to their ability to scale well. However, our motivation in

The R Series

Hands-On Machine Learning with R

Bradley Boehmke
Brandon Greenwell

CRC Press
Taylor & Francis Group
A CHAPMAN & HALL BOOK



What we learn

- Starting bookdown
- File Structure of bookdown
- Build/compile bookdown to gitbook format
- Publish book to <http://bookdown.org/>
- Overview of Rmarkdown

File Structure of bookdown

- index.Rmd

```
# Preface {-}  
  
In this book, we will introduce an interesting  
method.
```

- 01-intro.Rmd

```
# Introduction  
  
This chapter is an overview of the methods that  
we propose to solve an important problem.
```

- 02-literature.Rmd

```
# Literature  
  
Here is a review of existing methods.
```

-
- 03-method.Rmd

```
# Methods  
  
We describe our methods in this chapter.
```

- 04-application.Rmd

```
# Applications  
  
Some significant applications are demonstrated  
in this chapter.  
  
## Example one  
  
## Example two
```

- 05-summary.Rmd

```
# Final Words  
  
We have finished a nice book.
```


File Structure of bookdown

_output.yml

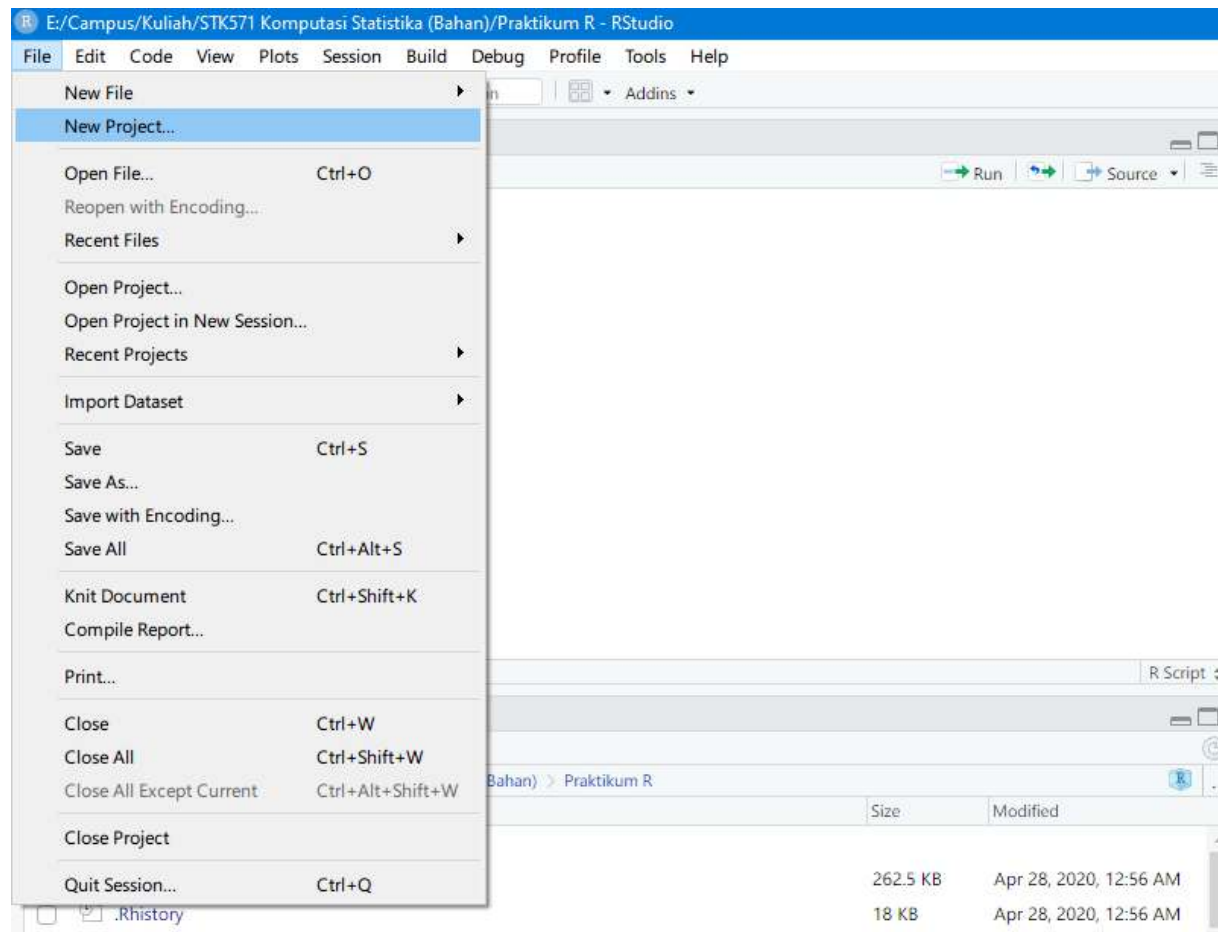
```
---
site: "bookdown::bookdown_site"
output:
  bookdown::gitbook:
    lib_dir: "book_assets"
  bookdown::pdf_book:
    keep_tex: yes
---
```

index.rmd

```
---
title: "Authoring A Book with R Markdown"
author: "Yihui Xie"
date: "`r Sys.Date()`"
site: "bookdown::bookdown_site"
output:
  bookdown::gitbook: default
documentclass: book
bibliography: ["book.bib", "packages.bib"]
biblio-style: apalike
link-citations: yes
---
```

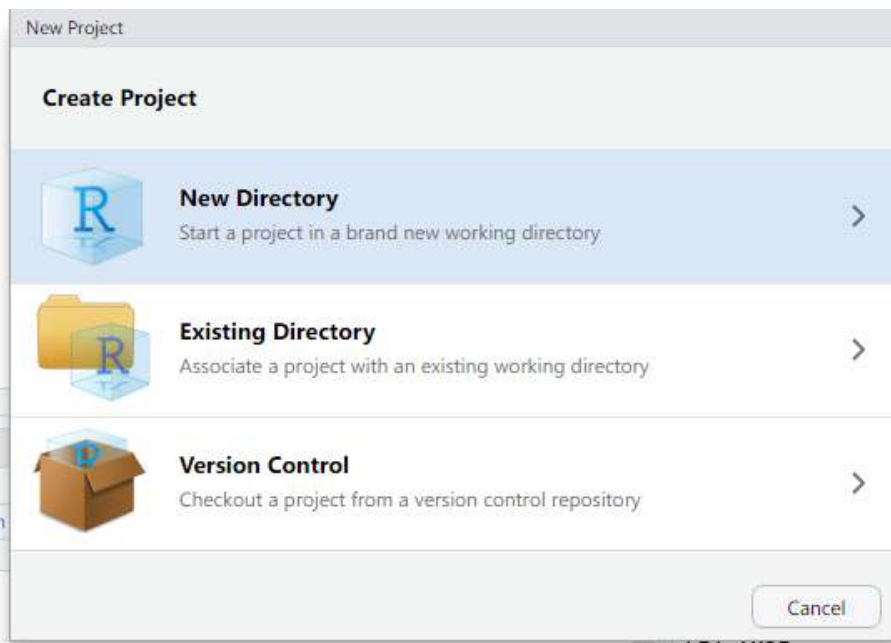
Starting Bookdown

1. Choose New Project:

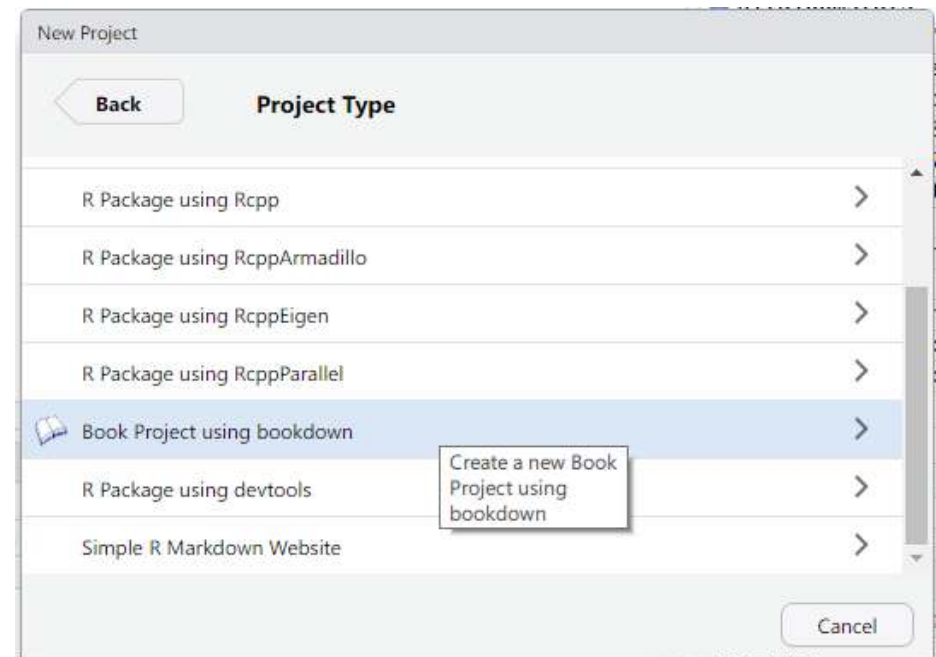


Starting Bookdown

2. Choose New Directory:

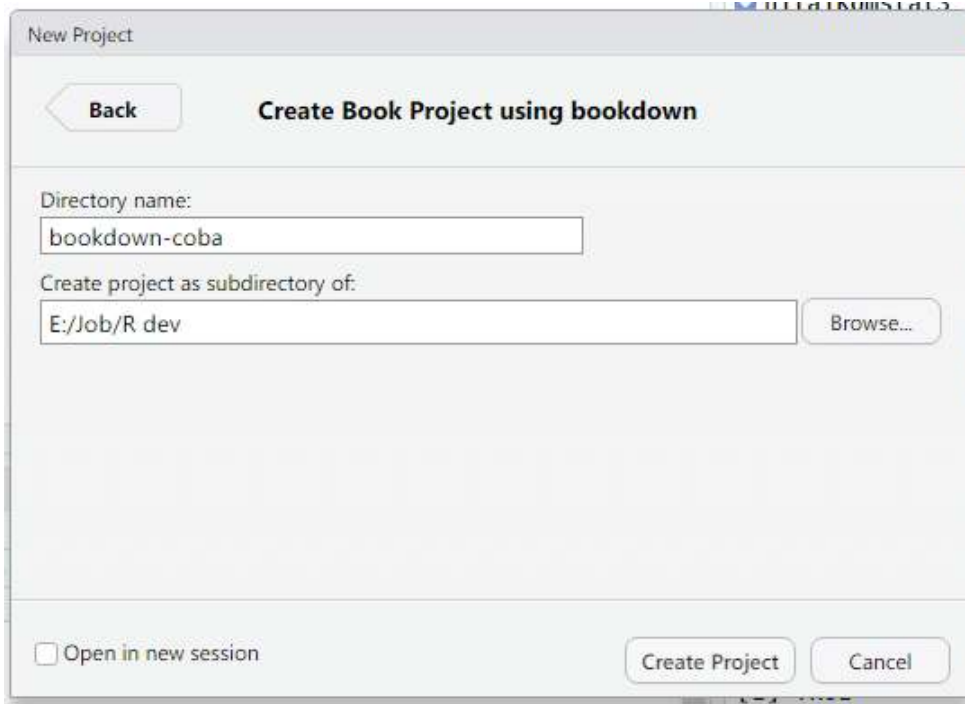


3. Choose Book Project using bookdown:



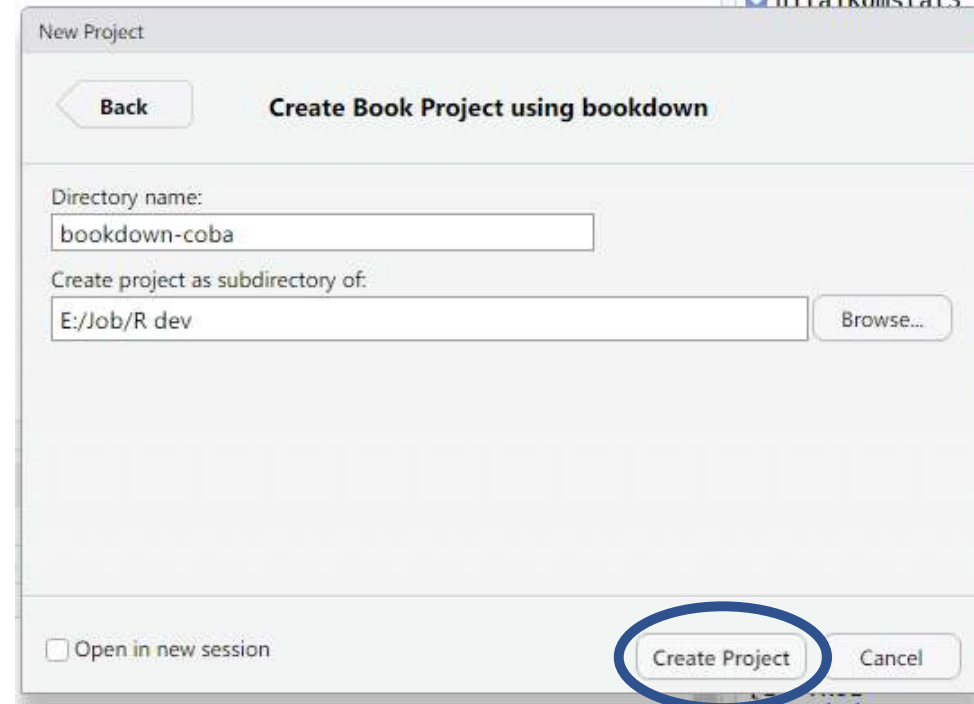
Starting Bookdown

4. Type Directory name and choose subdirectory



The screenshot shows the 'New Project' dialog box with the title 'Create Book Project using bookdown'. A 'Back' button is on the left. The 'Directory name:' field contains 'bookdown-coba'. The 'Create project as subdirectory of:' field contains 'E:/Job/R dev', with a 'Browse...' button to its right. At the bottom left is a checkbox labeled 'Open in new session'. At the bottom right are 'Create Project' and 'Cancel' buttons.

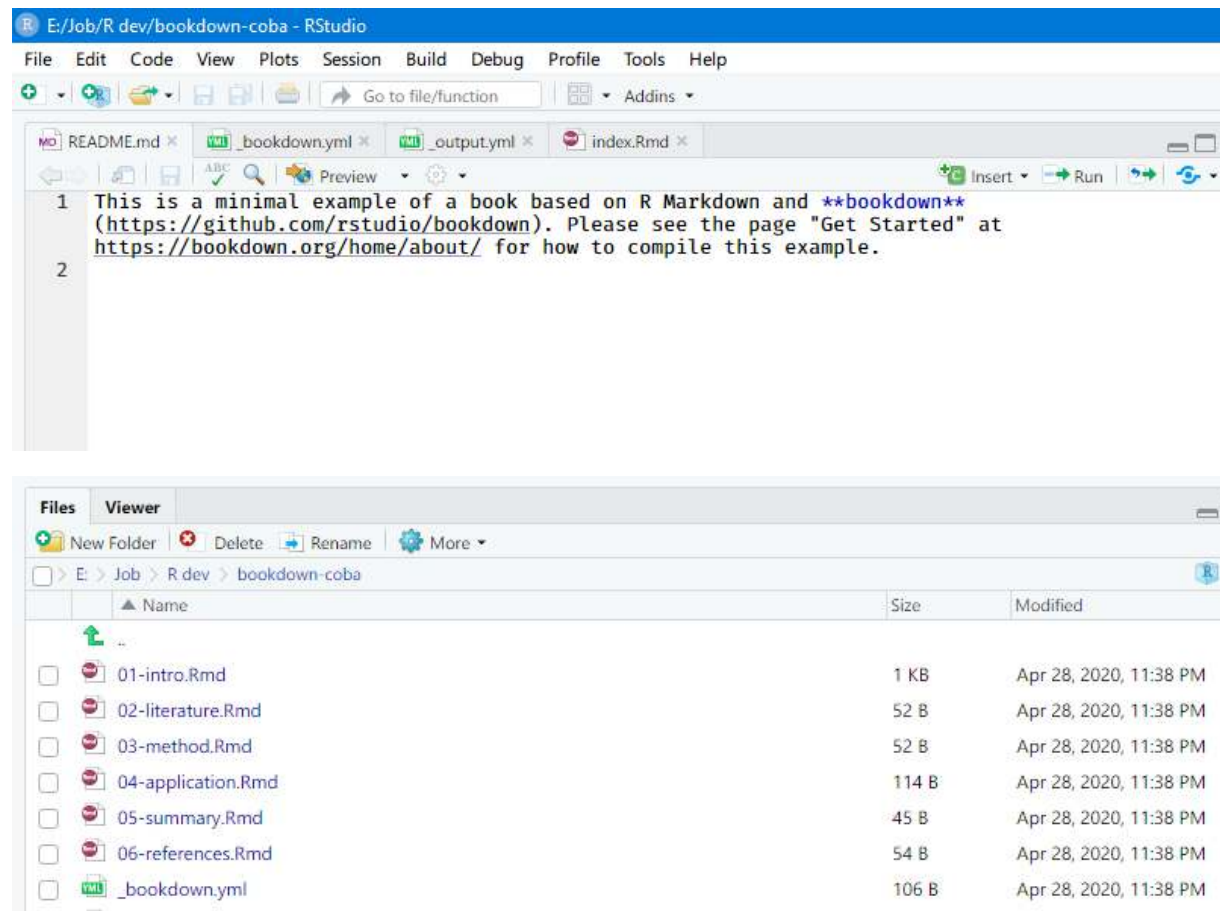
5. Click create project



This screenshot is identical to the previous one, but the 'Create Project' button at the bottom right is circled in blue to indicate it should be clicked.

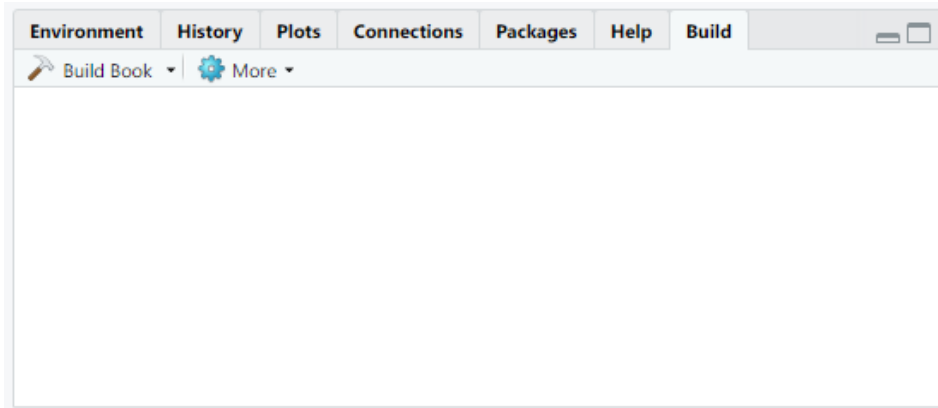
Starting Bookdown

Automatically bookdown template will be generated

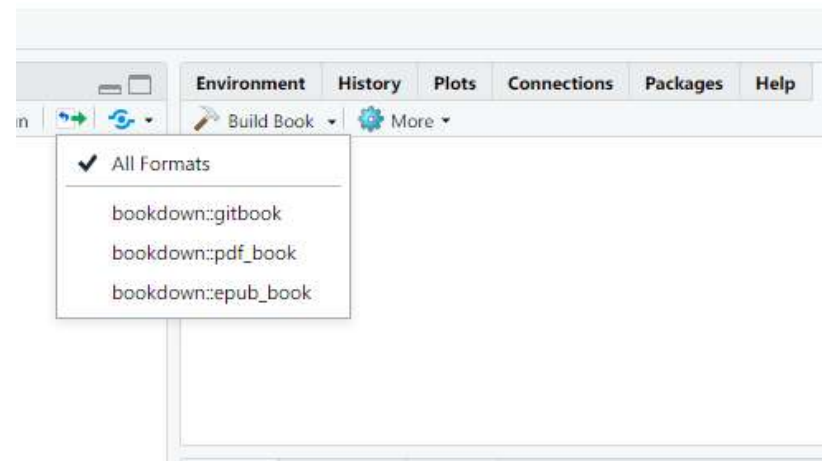


Build Bookdown

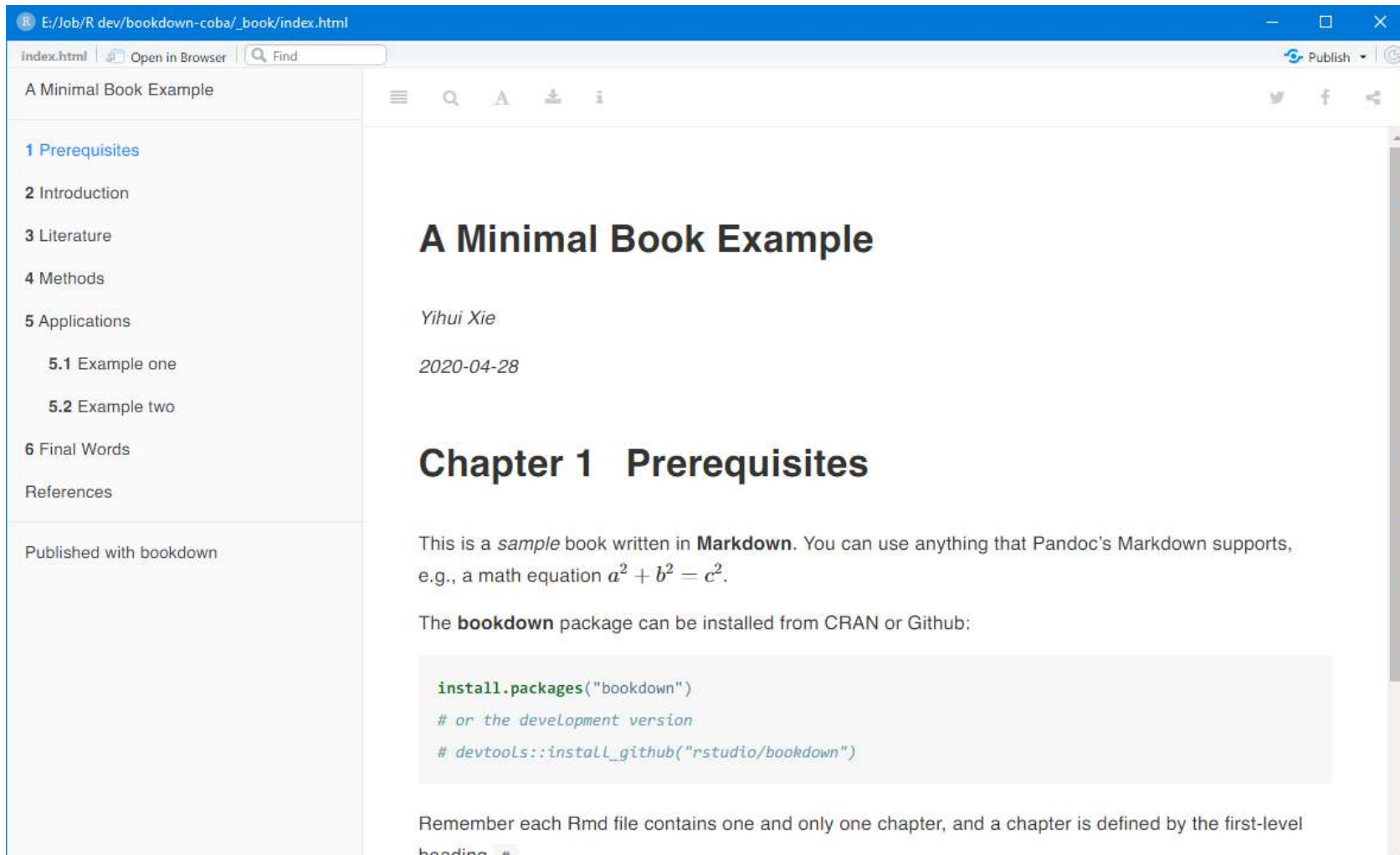
1. Click Build



2. Click Dropdown beside Build Book and choose gitbook



Build Bookdown



The screenshot shows a web browser window with the address bar displaying `E:/Job/R dev/bookdown-coba/_book/index.html`. The browser has tabs for `index.html` and `Open in Browser`, and a search bar with the text `Find`. The page title is `A Minimal Book Example`. The left sidebar contains a table of contents with the following items: `1 Prerequisites` (highlighted in blue), `2 Introduction`, `3 Literature`, `4 Methods`, `5 Applications` (with sub-items `5.1 Example one` and `5.2 Example two`), `6 Final Words`, and `References`. Below the table of contents, it says `Published with bookdown`. The main content area has a title `A Minimal Book Example`, an author `Yihui Xie`, and a date `2020-04-28`. Below this is a chapter heading `Chapter 1 Prerequisites`. The text of the chapter starts with `This is a sample book written in Markdown. You can use anything that Pandoc's Markdown supports, e.g., a math equation $a^2 + b^2 = c^2$.` followed by `The bookdown package can be installed from CRAN or Github:`. A code block follows with the following text:

```
install.packages("bookdown")  
# or the development version  
# devtools::install_github("rstudio/bookdown")
```

 The chapter concludes with the text `Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading #`.

E:/Job/R dev/bookdown-coba/_book/index.html

index.html | Open in Browser | Find

A Minimal Book Example

1 Prerequisites

2 Introduction

3 Literature

4 Methods

5 Applications

5.1 Example one

5.2 Example two

6 Final Words

References

Published with bookdown

A Minimal Book Example

Yihui Xie

2020-04-28

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

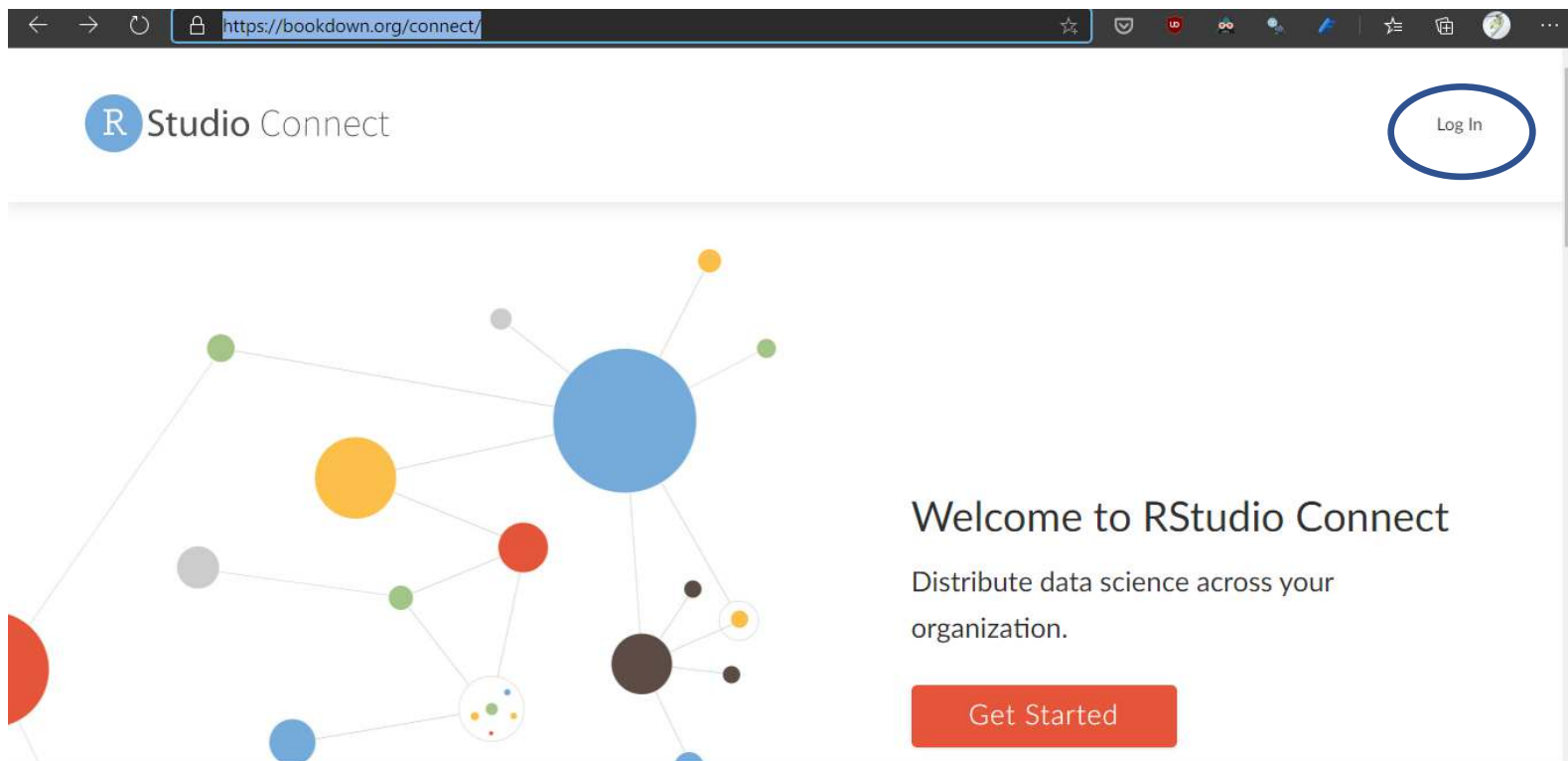
The **bookdown** package can be installed from CRAN or Github:

```
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 #

Register in Bookdown website

1. Open <https://bookdown.org/connect/>
2. Click log in



Register in Bookdown website

3. Click Sign in with Google

__login__?url=https%3A%2F%2Fbookdown.org%2Fconnect%2F

RStudio Connect

☒ I agree to the [Terms of Service](#)



NOTICE: Other users will be able to see your full name and email address in RStudio Connect.

Register in Bookdown website

3. Click Sign in with Google

__login__?url=https%3A%2F%2Fbookdown.org%2Fconnect%2F

RStudio Connect

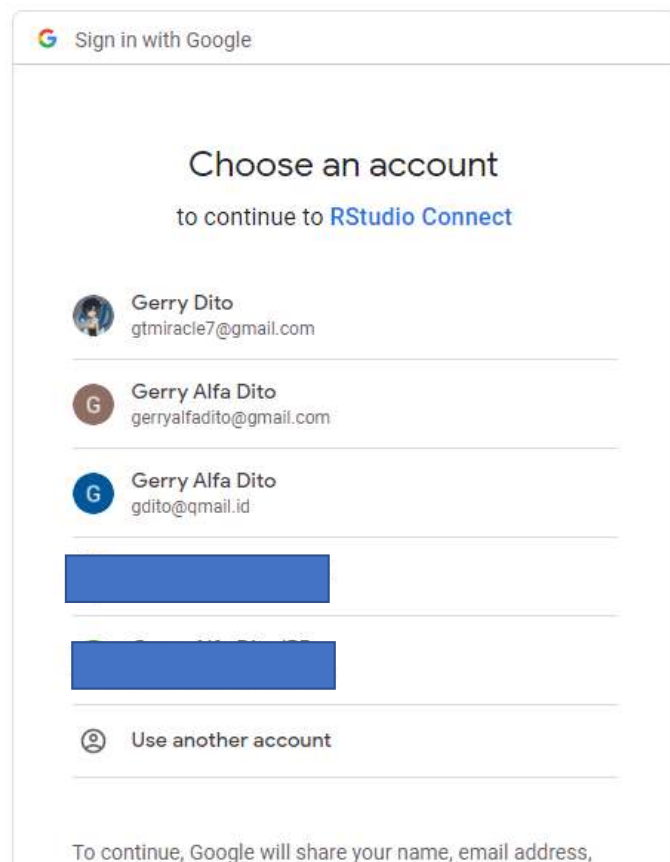
☒ I agree to the [Terms of Service](#)



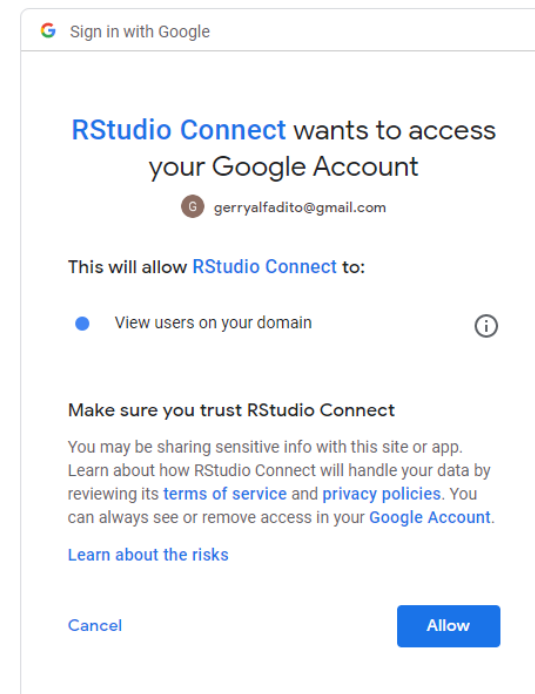
NOTICE: Other users will be able to see your full name and email address in RStudio Connect.

Register in Bookdown website

3. Choose an google account

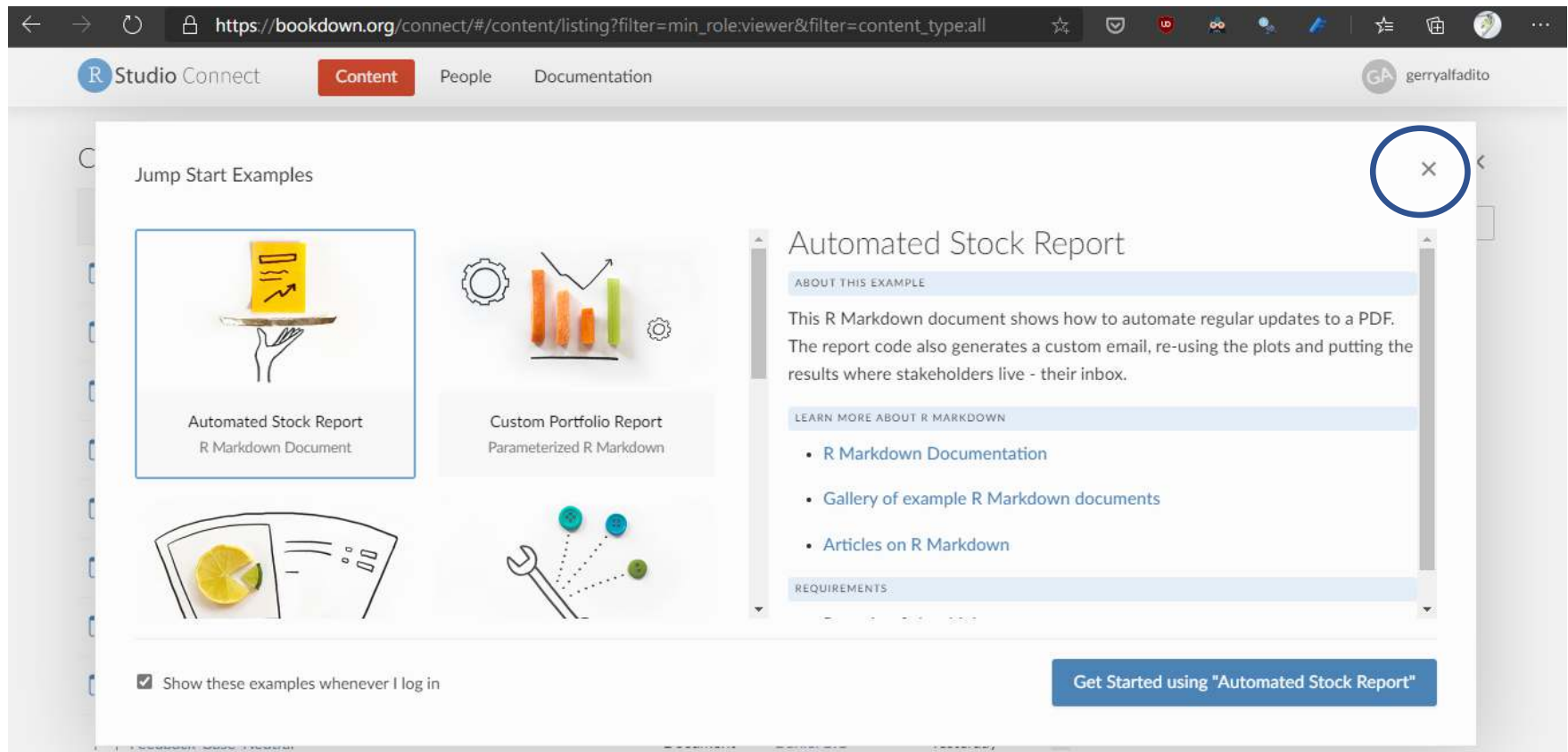


4. Click allow



Register in Bookdown website

5. Click Close button



The screenshot shows the Bookdown website interface. The browser address bar displays the URL: https://bookdown.org/connect/#/content/listing?filter=min_role:viewer&filter=content_type:all. The website header includes the 'R Studio Connect' logo, a 'Content' button, and links for 'People' and 'Documentation'. The user profile 'GA gerryalfadito' is visible in the top right.

The main content area features a 'Jump Start Examples' modal. The modal has a close button (X) in the top right corner, which is circled in blue. The modal displays four example reports:

- Automated Stock Report**
R Markdown Document
- Custom Portfolio Report**
Parameterized R Markdown
- Automated Stock Report**
R Markdown Document
- Custom Portfolio Report**
Parameterized R Markdown

The 'Automated Stock Report' example is expanded, showing the following content:

Automated Stock Report

ABOUT THIS EXAMPLE

This R Markdown document shows how to automate regular updates to a PDF. The report code also generates a custom email, re-using the plots and putting the results where stakeholders live - their inbox.


LEARN MORE ABOUT R MARKDOWN

- [R Markdown Documentation](#)
- [Gallery of example R Markdown documents](#)
- [Articles on R Markdown](#)

REQUIREMENTS

At the bottom of the modal, there is a checkbox labeled 'Show these examples whenever I log in' which is checked, and a blue button labeled 'Get Started using "Automated Stock Report"'.

Register in Bookdown website

 Studio Connect



Content

People










Documentation

GA gerryalfadito

Content



Publish ▾

Name	Type	Author	Last Deployed
 bookdown-coba	Site	Gerry Alfa Dito	Today
 COVID-19	Site	Randy Tarnowski	Today
 AndresSuarezBook	Site	Andres Suarez	Yesterday
 mylabnotebook	Site	NAOMI H	Yesterday
 rmarkdown-cookbook	Site	Yihui Xie	Yesterday
 bookdown-demo	Site	Flavia Sancier	Yesterday
 applied-causal-analysis	Site	Paul beh	Yesterday
 Allabouther	Site	Jess Lee	Yesterday
 Feedback Base Neutral	Document	Daniel B.G	Yesterday

Options

×

Search for a content name...

Owner

☒ All

☐ Yours

Content Type

☒ All

☐ Applications

☐ Documents & Reports

☐ Plots

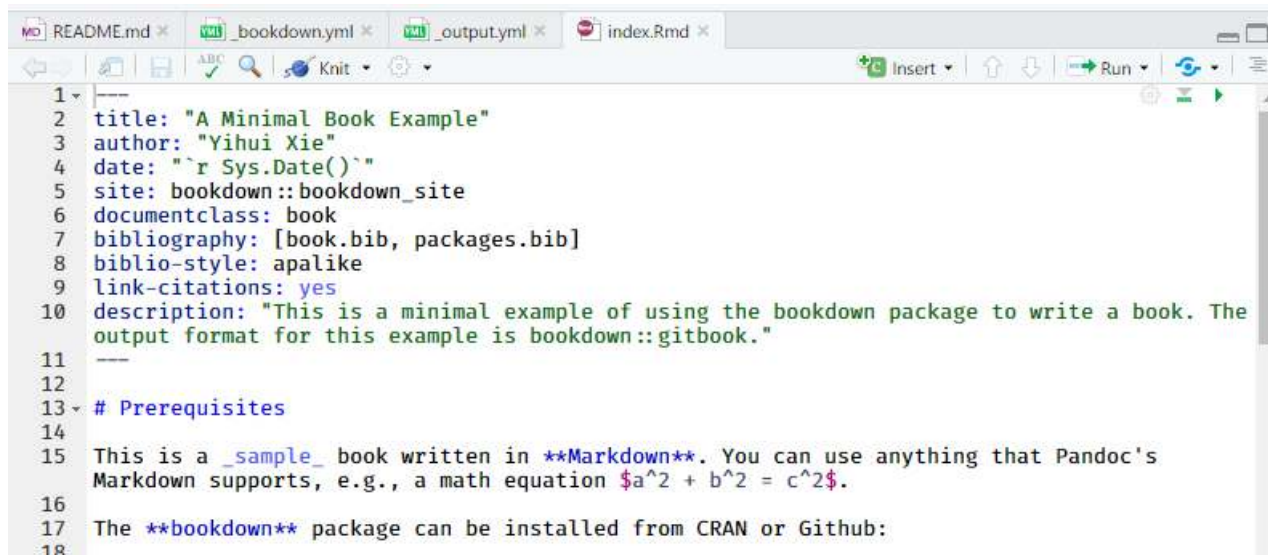
☐ Pins

☐ APIs

☐ TensorFlow Model APIs

Publish Bookdown

1. Click index.rmd files

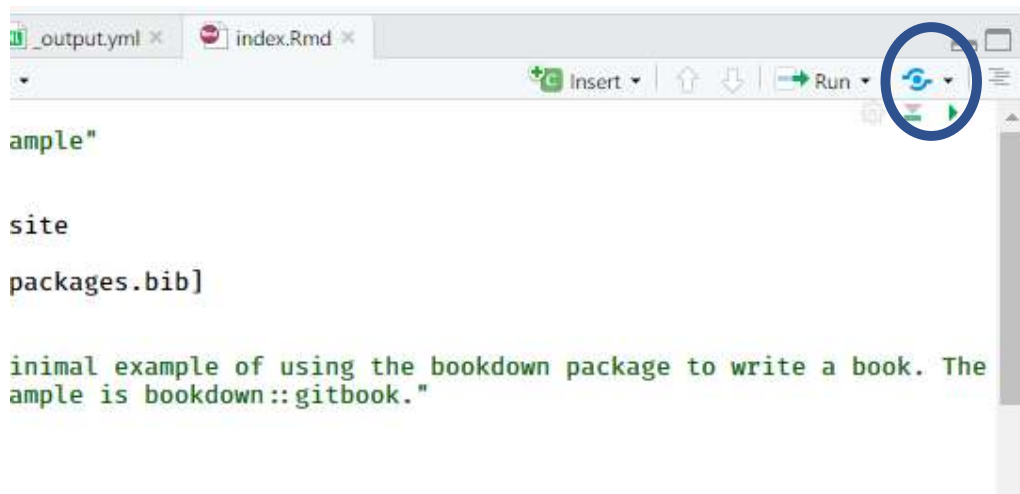


The screenshot shows a web-based editor for a Bookdown project. The top toolbar includes icons for navigation, saving, and running. The active file is 'index.Rmd'. The code is as follows:

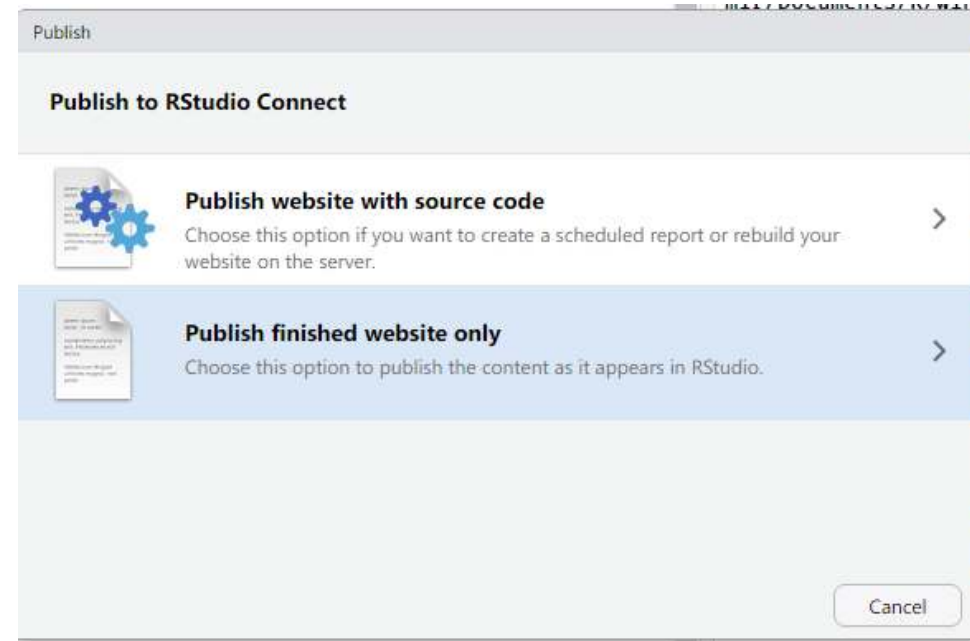
```
1 ---
2 title: "A Minimal Book Example"
3 author: "Yihui Xie"
4 date: "`r Sys.Date()`"
5 site: bookdown::bookdown_site
6 documentclass: book
7 bibliography: [book.bib, packages.bib]
8 biblio-style: apalike
9 link-citations: yes
10 description: "This is a minimal example of using the bookdown package to write a book. The
11   output format for this example is bookdown::gitbook."
12 ---
13 # Prerequisites
14
15 This is a _sample_ book written in Markdown. You can use anything that Pandoc's
16 Markdown supports, e.g., a math equation  $a^2 + b^2 = c^2$ .
17
18 The bookdown package can be installed from CRAN or Github:
```

Publish Bookdown

1. Click the left corner button

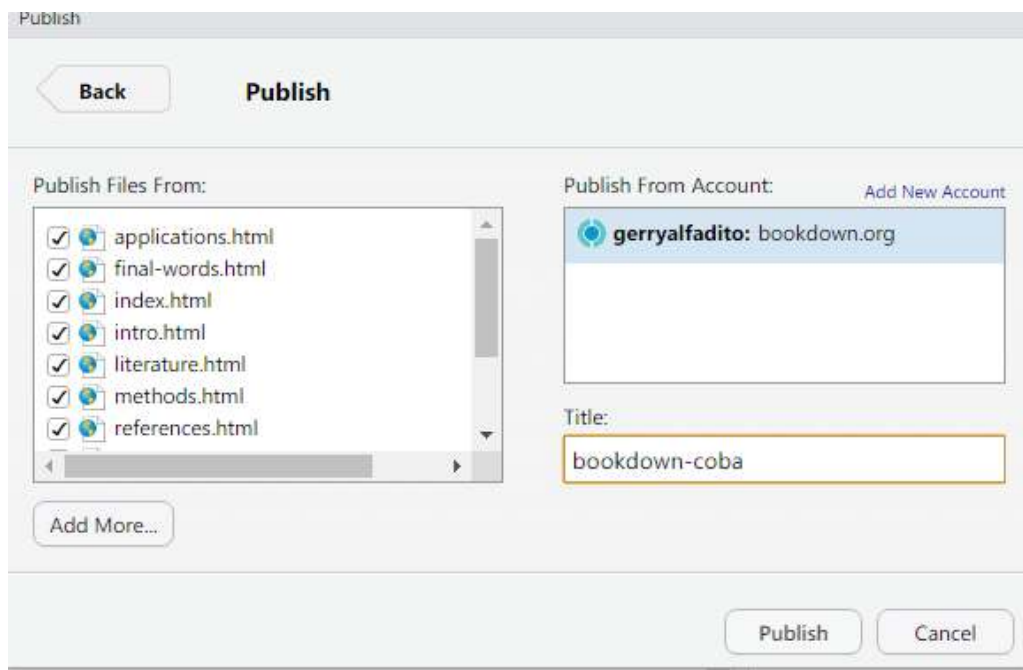


2. Click Publish finished website only

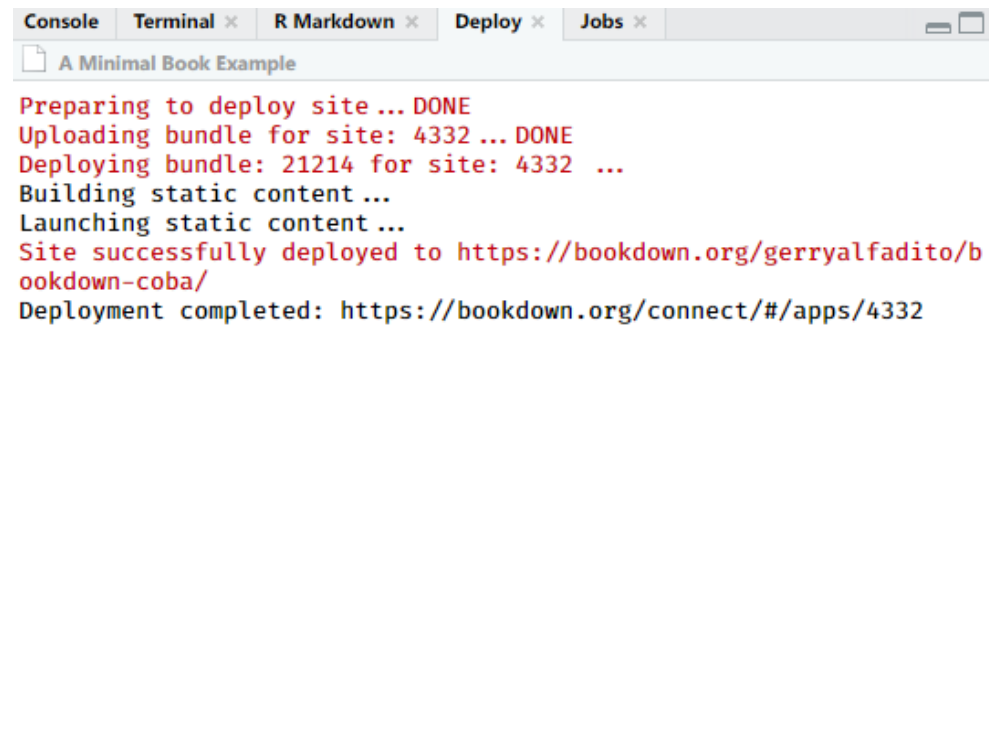


Publish Bookdown

3. Choose account to published and click publish



4. Wait until published





Overview of rmarkdown

markdown syntax

- `_text_` atau `*text*` menghasilkan italic *text*
- `__text__` atau `**text**` menghasilkan bold **text**
- `x~2` menghasilkan subscript x_2
- `X^3` menghasilkan superscript x^3
- ``matrix`` menghasilkan inline code `matrix`
- `[Rstudio] (https://www.rstudio.com)` menghasilkan hyperlink Rstudio
- `![alt text or image title](path/to/image)` digunakan untuk insert image

markdown syntax

Unordered list items start with `*`, `-`, or `+`, and you can nest one list within another list by indenting the sub-list, e.g.,

```
- one item
- one item
- one item
  - one more item
  - one more item
  - one more item
```

The output is:

- one item
- one item
- one item
 - one more item
 - one more item
 - one more item

Section headers can be written after a number of pound signs, e.g.,

```
# First-level header

## Second-level header

### Third-level header
```

markdown syntax

Unordered list items start with `*`, `-`, or `+`, and you can nest one list within another list by indenting the sub-list, e.g.,

```
- one item
- one item
- one item
  - one more item
  - one more item
  - one more item
```

The output is:

- one item
- one item
- one item
 - one more item
 - one more item
 - one more item

Section headers can be written after a number of pound signs, e.g.,

```
# First-level header

## Second-level header

### Third-level header
```

markdown syntax

2.5.3 Math expressions

Inline LaTeX equations can be written in a pair of dollar signs using the LaTeX syntax, e.g.,

`$f(k) = \binom{n}{k} p^k (1-p)^{n-k}$` (actual output: $f(k) = \binom{n}{k} p^k (1-p)^{n-k}$);

math expressions of the display style can be written in a pair of double dollar signs, e.g.,

`$$f(k) = \binom{n}{k} p^k (1-p)^{n-k}$$`, and the output looks like this:

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

You can also use math environments inside `$ $` or `$$ $$`, e.g.,

```
$$\begin{array}{ccc}
x_{11} & x_{12} & x_{13} \\
x_{21} & x_{22} & x_{23}
\end{array}$$
```

x_{11}	x_{12}	x_{13}
x_{21}	x_{22}	x_{23}

Ordered list items start with numbers (you can also nest lists within lists), e.g.,

1. the first item
2. the second item
3. the third item
 - one unordered item
 - one unordered item

The output does not look too much different with the Markdown source:

1. the first item
2. the second item
3. the third item
 - one unordered item
 - one unordered item

markdown syntax

```
$$\Theta = \begin{pmatrix}\alpha & \beta \\ \gamma & \delta\end{pmatrix}$$
```

$$\Theta = \begin{pmatrix} \alpha & \beta \\ \gamma & \delta \end{pmatrix}$$

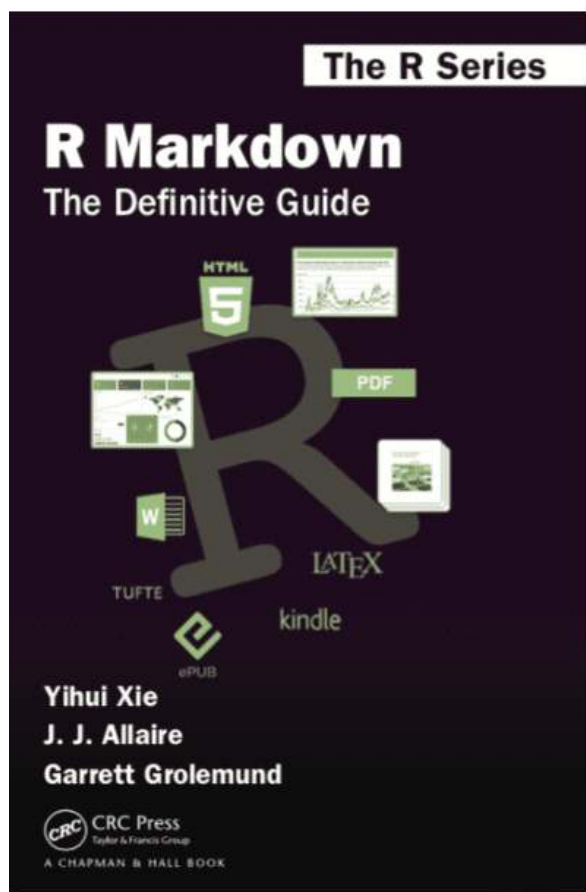
```
$$\begin{vmatrix}a & b \\ c & d\end{vmatrix}=ad-bc$$
```

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc$$

for futher reading

<https://bookdown.org/yihui/bookdown/>

<https://bookdown.org/yihui/rmarkdown/>





Thank You