Template

optional

psyTeachR Team

2021-09-17

Contents

Overview

After copying this template to your project, you will need to change the information in the `CITATION` and `DESCRIPTION` files, as well as update the YAML header of `book/index.Rmd` and `book/_output.yml`.

Chapter 1

Intro to R and RStudio

1.1 Intended Learning Outcomes

- Understand structure and content of course
- Install R and RStudio
- Understand reproducibility

Appendix A

Installing `R`

Installing R and RStudio is usually straightforward. The sections below explain how and there is a helpful YouTube video here.

A.1 Installing Base R

Install base R. Choose the download link for your operating system (Linux, Mac OS X, or Windows).

If you have a Mac, install the latest release from the newest `R-x.x.x.pkg` link (or a legacy version if you have an older operating system). After you install R, you should also install XQuartz to be able to use some visualisation packages.

If you are installing the Windows version, choose the "base" subdirectory and click on the download link at the top of the page. After you install R, you should also install RTools; use the "recommended" version highlighted near the top of the list.

If you are using Linux, choose your specific operating system and follow the installation instructions.

A.2 Installing RStudio

Go to rstudio.com and download the RStudio Desktop (Open Source License) version for your operating system under the list titled **Installers for Supported Platforms**.

A.3 RStudio Settings

There are a few settings you should fix immediately after updating RStudio. Go to **`Global Options...`** under the **`Tools`** menu (,), and in the General tab, uncheck the box that says **`Restore .RData into workspace at startup`**. If you keep things around in your workspace, things will get messy, and unexpected things will happen. You should always start with a clear workspace. This also means that you never want to save your workspace when you exit, so set this to **`Never`**. The only thing you want to save are your scripts.

You may also want to change the appearance of your code. Different fonts and themes can sometimes help with visual difficulties or dyslexia.

You may also want to change the settings in the Code tab. Foe example, Lisa prefers two spaces instead of tabs for my code and likes to be able to see the whitespace characters. But these are all a matter of personal preference.

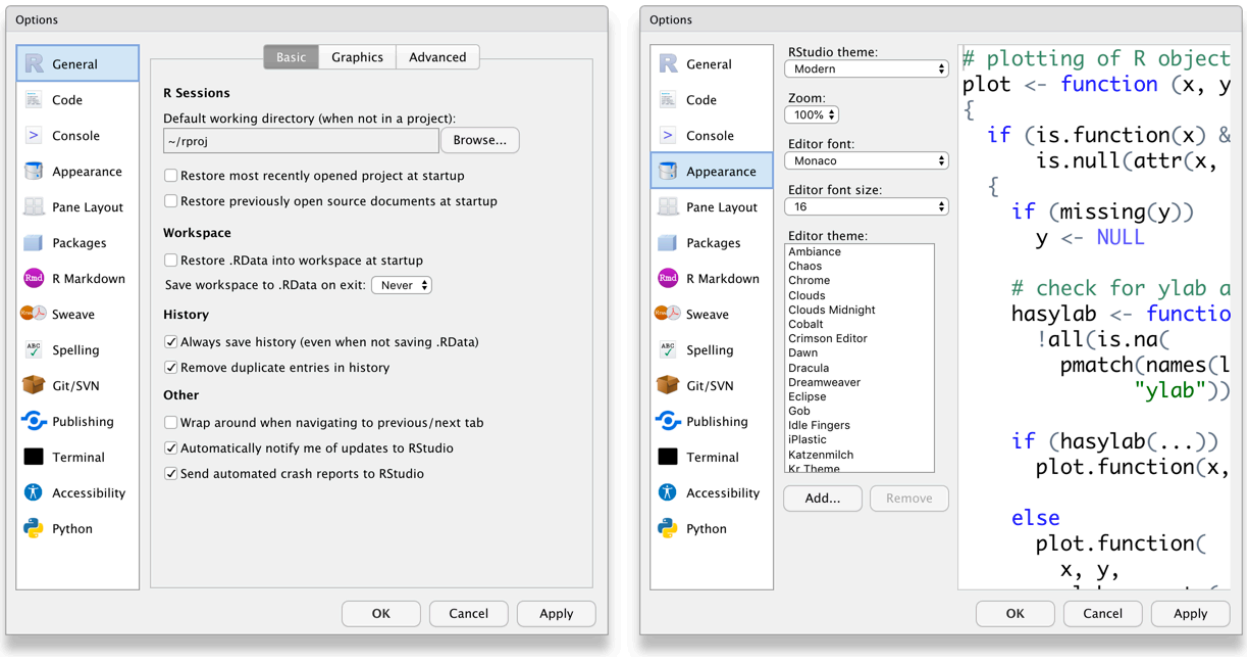

Figure A.1: RStudio General and Appearance settings

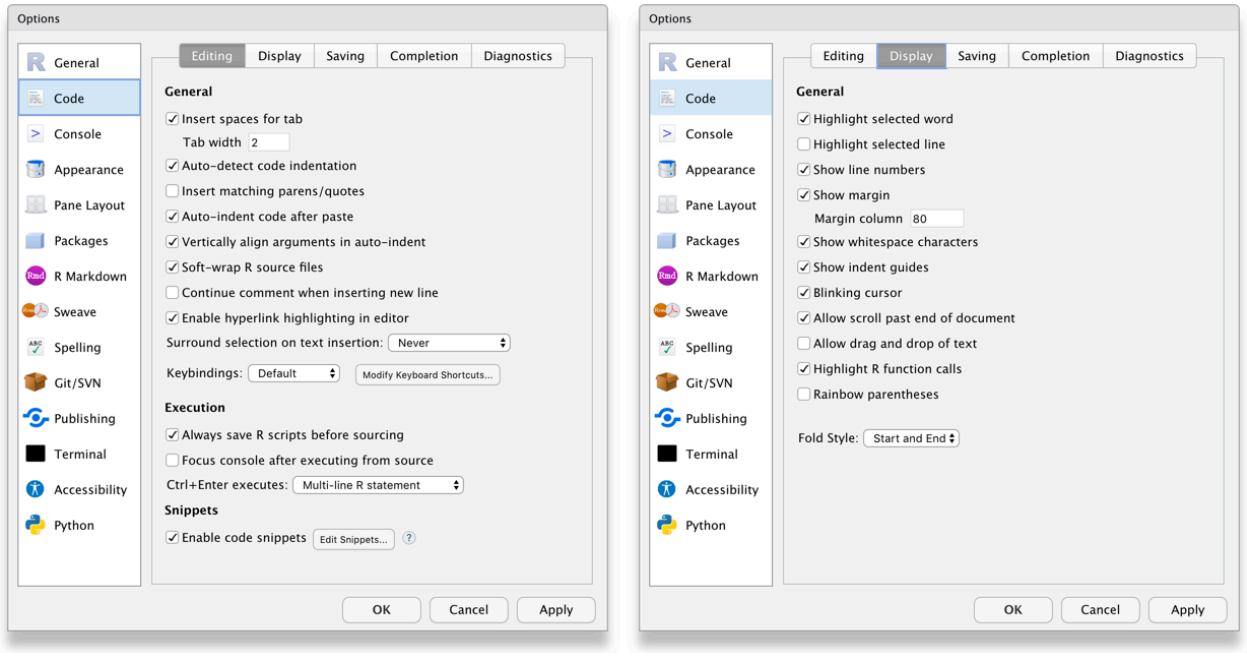

Figure A.2: RStudio Code settings

A.4 Installing LaTeX

You can install the LaTeX typesetting system to produce PDF reports from RStudio. Without this additional installation, you will be able to produce reports in HTML but not PDF. This course will not require you to make PDFs. To generate PDF reports, you will additionally need to install tinytex [Xie, 2021] and run the following code:

```
tinytex::install_tinytex()
```

Appendix B

Symbols

Symbol	psyTeachR Term	Also Known As
()	(round) brackets	parentheses
[]	square brackets	brackets
{}	curly brackets	squiggly brackets
<>	chevrons	angled brackets / guillemets
<	less than	
>	greater than	
&	ampersand	"and" symbol
#	hash	pound / octothorpe
/	slash	forward slash
\	backslash	
-	dash	hyphen / minus
_	underscore	
*	asterisk	star
^	caret	power symbol
~	tilde	twiddle / squiggle
=	equal sign	
==	double equal sign	
.	full stop	period / point
!	exclamation mark	bang / not
?	question mark	
'	single quote	quote / apostrophe
"	double quote	quote
%>%	pipe	magrittr pipe
|	vertical bar	pipe
,	comma	
;	semi-colon	
:	colon	
@	"at" symbol	various hilarious regional terms
...	`glossary("ellipsis")`	dots

Figure B.1: [Image by James Chapman/Soundimals](https://soundimals.tumblr.com/post/167354564886/chapmangamo-the-symbol-has-too-many-names)

Appendix C

Conventions

This book will use the following conventions:

- Generic code: `list(number = 1, letter = "A")`
- Highlighted code: dplyr::slice_max()
- File paths: data/sales.csv
- R Packages: tidyverse
- Functions: paste()
- Strings: "psyTeachR"
- Numbers: 100, 3.14
- Logical values: TRUE, FALSE
- Glossary items: ordinal
- Citations: Wickham [2021]
- Internal links: Chapter 1
- External links: R for Data Science
- Menu/interface options: **`New File...`**

C.1 Webexercises

- Type an integer:
- I am going to learn a lot: TRUEFALSE
- What is a p-value?
  the probability that the null hypothesis is true the probability of the observed (or more extreme) data, under the assumption that the null-hypothesis is true the probability of making an error in your conclusion

Hidden Text

You found some hidden text!

Hidden Code

```
print("You found some hidden code!")
```

```
## [1] "You found some hidden code!"
```

C.2 Alert boxes

Informational asides.

Notes to warn you about something.

Notes about things that could cause serious errors.

Try it yourself.

C.3 Code Chunks

```
# code chunks
paste("Applied", "Data", "Skills", 1, sep = " ")
```

```
## [1] "Applied Data Skills 1"
```

```
# code chunks with visible r headers
library(tidyverse)
```

C.4 Glossary

term	definition
ordinal	Discrete variables that have an inherent order, such as number of legs

License

Bibliography

Hadley Wickham. *tidyverse: Easily Install and Load the Tidyverse*, 2021. URL https://CRAN.R-project.org/package=tidyverse. R package version 1.3.1.

Yihui Xie. *tinytex: Helper Functions to Install and Maintain TeX Live, and Compile LaTeX Documents*, 2021. URL https://github.com/yihui/tinytex. R package version 0.33.