Packages & R code

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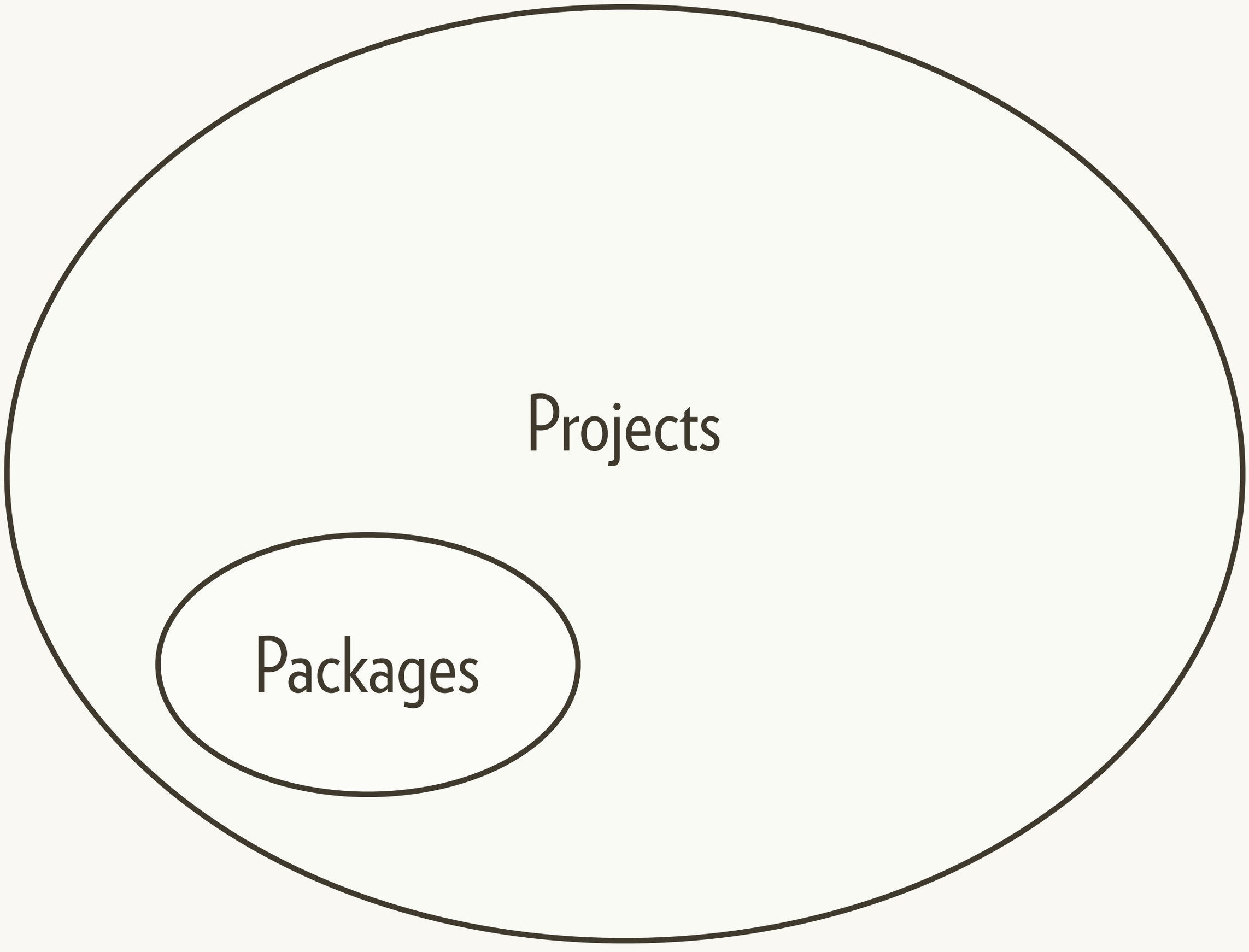
Hadley Wickham
@hadleywickham
Chief Scientist, **RStudio**

Motivation

A package is a set of conventions that (with the right tools) makes your life easier

“Seriously, it doesn’t have to be about sharing your code (although that is an added benefit!). It is about saving yourself time.”

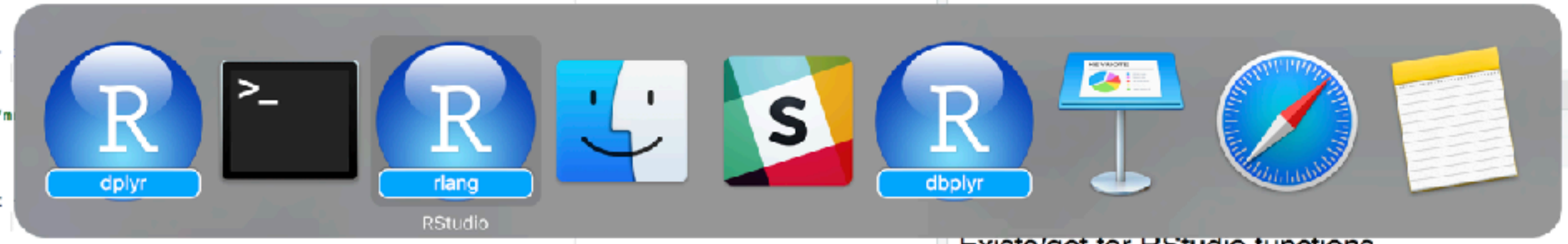
— *Hilary Parker*


Projects
Packages

RStudio projects

Why use RStudio projects?

3 reasons



Work on multiple projects simultaneously and independently

Manage working directories

> If the first line of your R script is
>
> `setwd("C:\path\that\only\I\have")`
>
> I will come into your office and SET YOUR COMPUTER ON FIRE 🔥.
>
> — *Jenny Bryan*

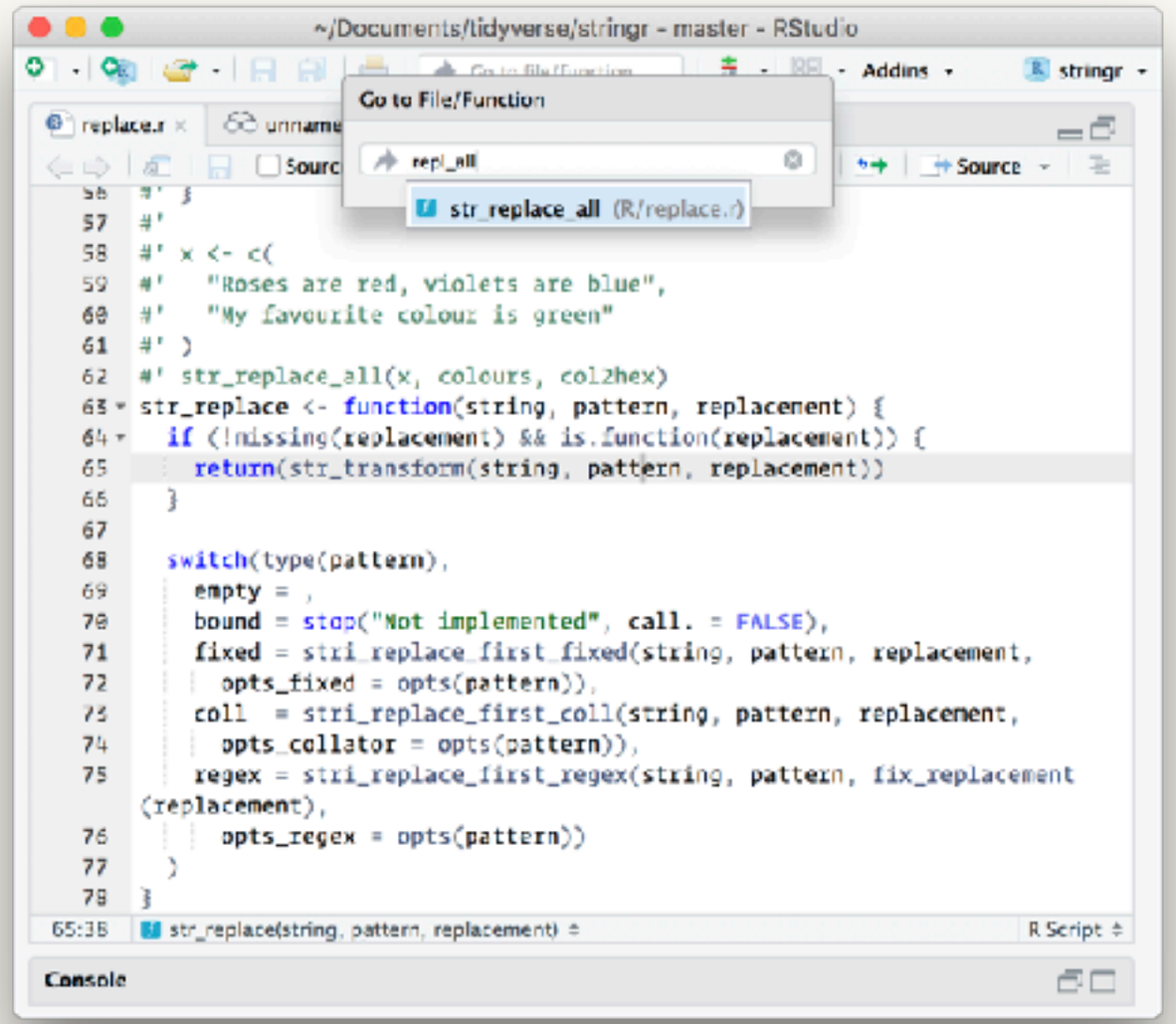
https://www.tidyverse.org/articles/2017/12/workflow-vs-script/

Manage working directories

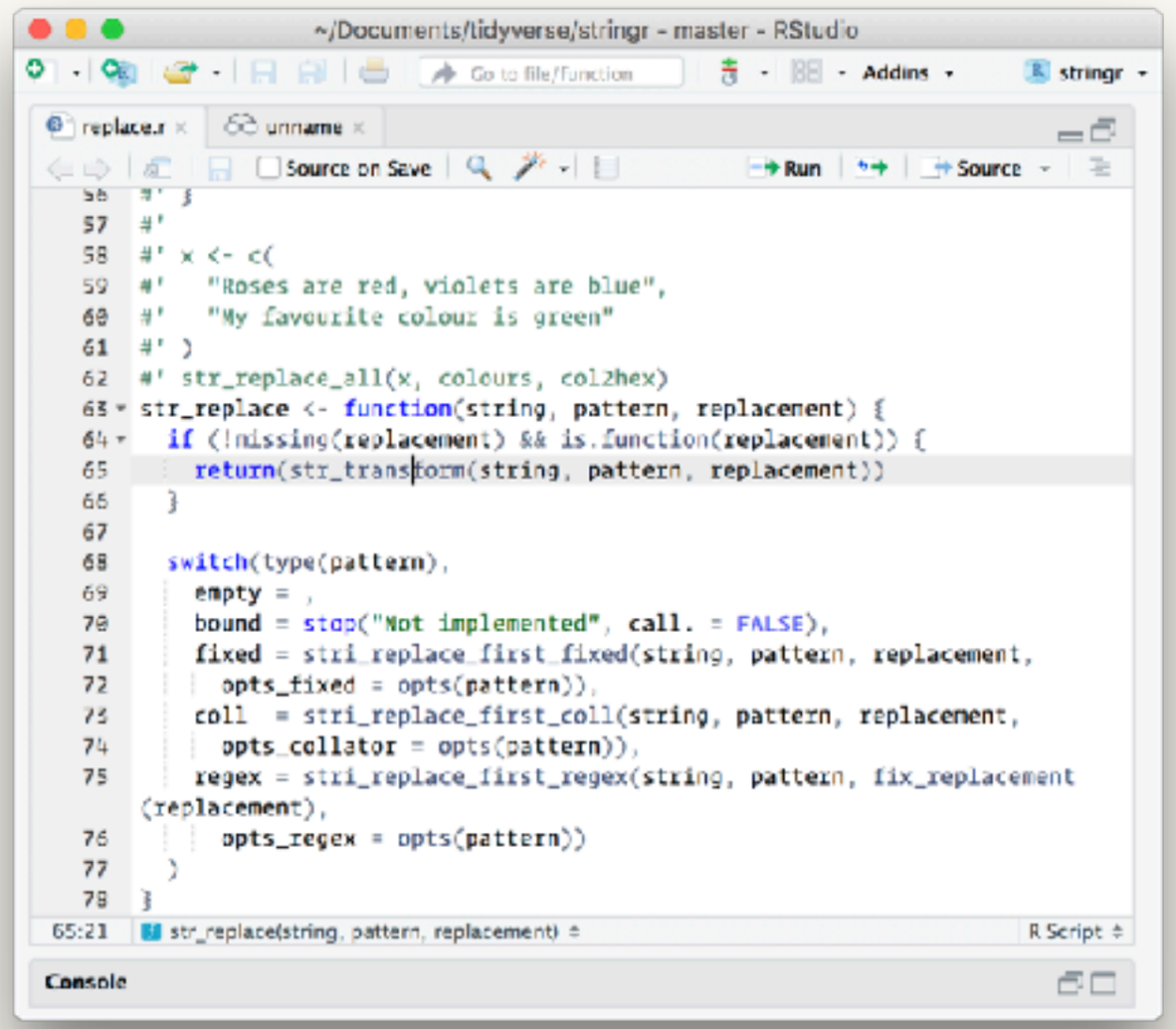
Double click to open project

mylittlepony.Rproj

Enhanced navigation



Ctrl + . = find functions/files



F2 = jump to definition

My first package

```
package.skeleton()
```

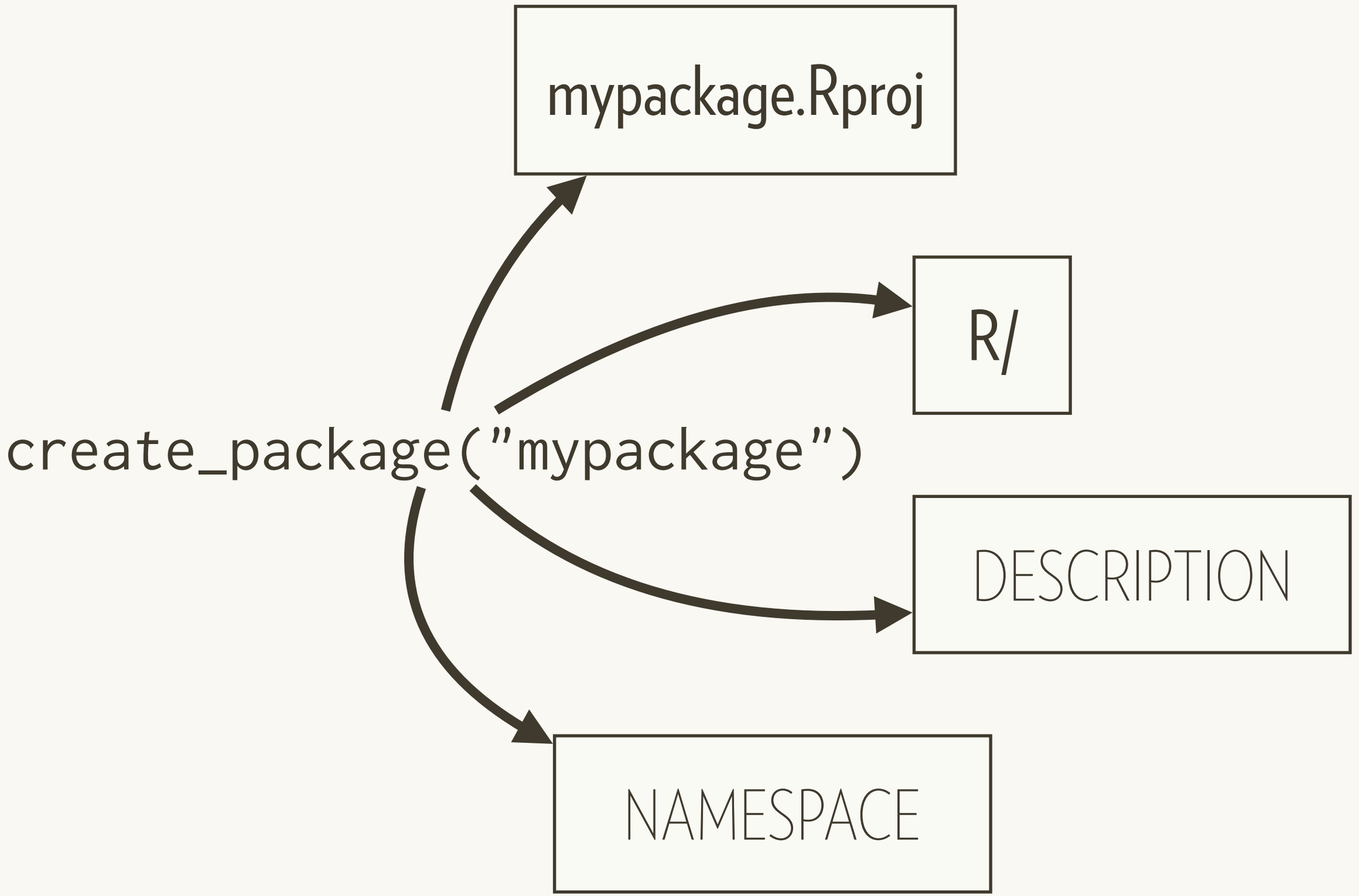
Never use this!

Your turn

```
# Verify that you can create a package with:
usethis::create_package("~/Desktop/mypackage")

# What files and directories are created?

# You can also create new project using RStudio
# but it has some slight differences that will
# cause friction today (but not in general)
```

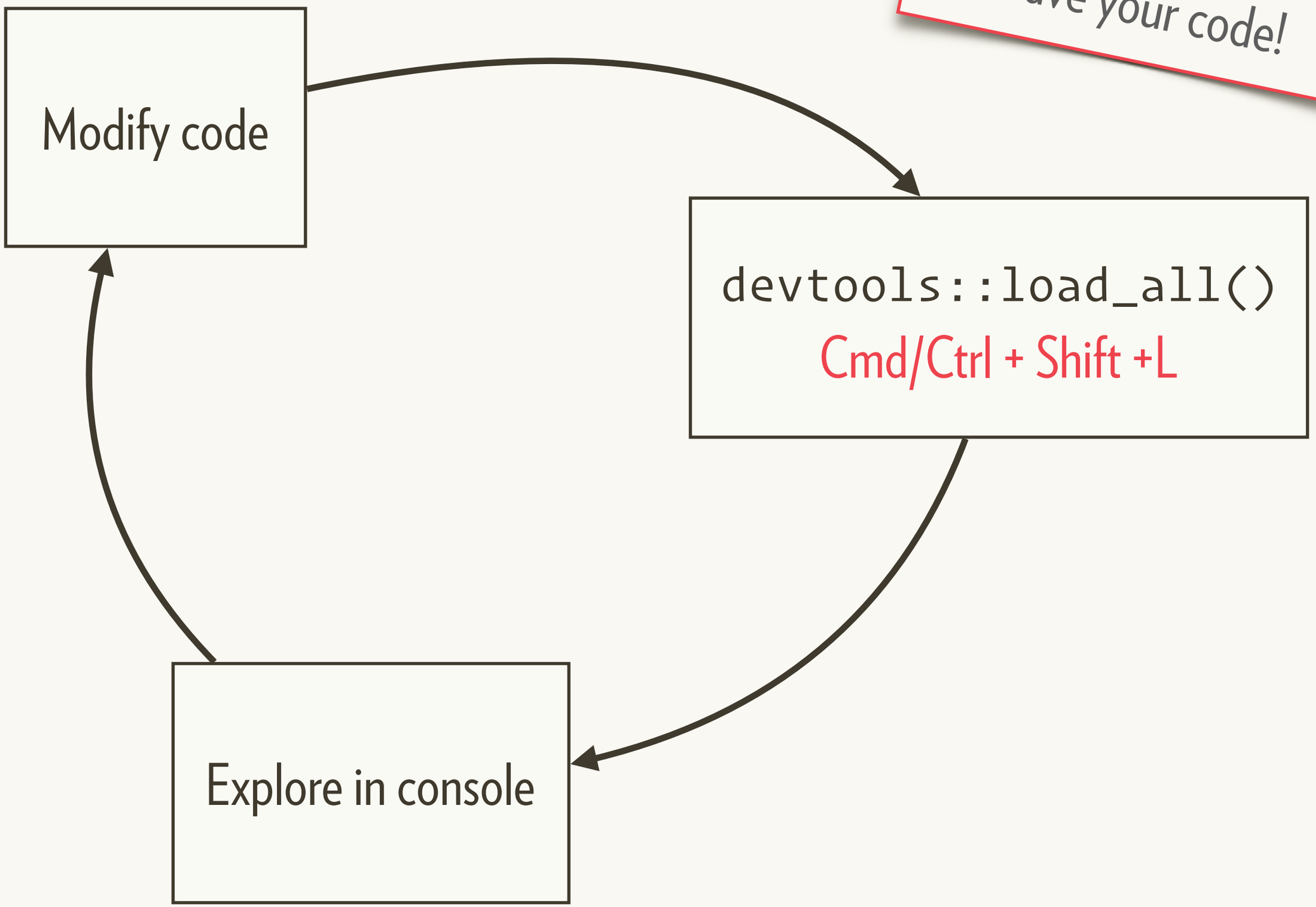
Good place to start; bad place to stop

What happens we run create_package()?



Why bother?

You don't even need to save your code!



Change project to:

[mylittlepony]

Your turn

Jump to rpony() using only the keyboard.

Load all the functions (using a keyboard shortcut), then run rpony(10).

Uhoh! I have forgotten to include Fluttershy in the list of ponies. Add her, reload the code, and verify that your change worked.

What if you need to create a new file?

```
# There's a usethis helper for that too!
usethis::use_r("file-name")

# Organise files so that related code
# lives together. If you can give a file
# a concise and informative name, it's
# probably about right
```

Your turn

Use usethis::use_r("show") to create a new file

Add a function that prints all ponies in alphabetical order.

Practice using the keyboard shortcuts.

R/RStudio setup

Workflow setup: your .Rprofile

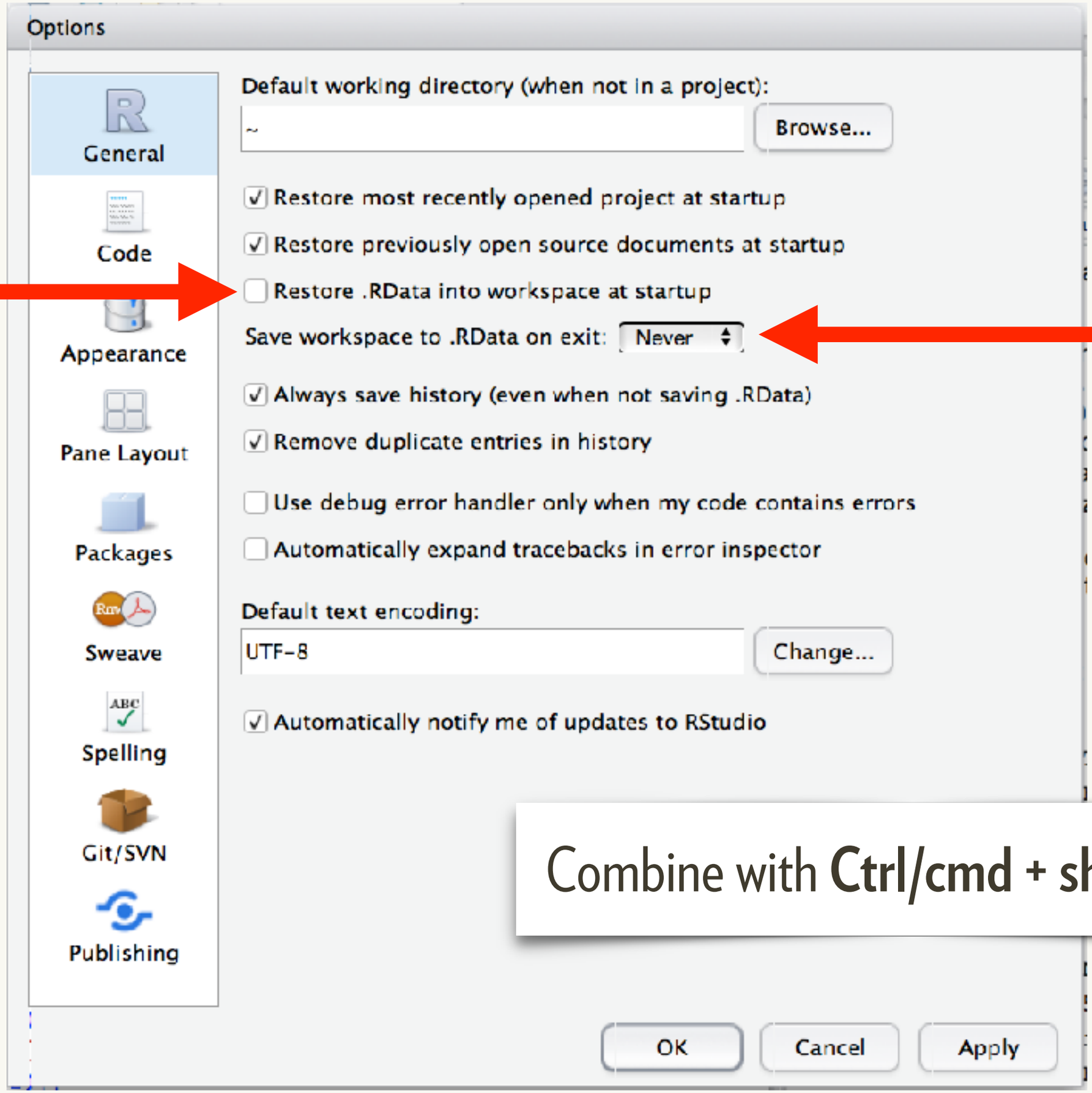
```
# Setup some code that is run every time
# you start R: usethis::edit_r_profile()

if (interactive()) {
  suppressMessages(require(devtools))
  suppressMessages(require(usethis))
  suppressMessages(require(testthat))
}
```

Never include analysis packages here

```
if (interactive()) {
  suppressMessages(require(ggplot2))
  suppressMessages(require(dplyr))
}
```

While you're in there, also add

```
options(
  warnPartialMatchArgs = TRUE,
  warnPartialMatchDollar = TRUE,
  warnPartialMatchAttr = TRUE
)
```



Combine with **Ctrl/cmd + shift + F10**

Your turn

Back at 11am

Follow the instructions in previous slides and make sure that you're optimally configured.

Read https://www.tidyverse.org/articles/2017/12/workflow-vs-script/ for more justification/motivation

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