

R from start to finish

2022/05/24

Keeping your analyses organised

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Untitled 241.doc
Untitled 138 copy.docx
Untitled 138 copy 2.docx
Untitled 139.docx
Untitled 40 MOM ADDRESS.jpg
Untitled 242.doc
Untitled 243.doc
Untitled 243 IMPORTANT.doc
Untitled 41.jpg



PRO TIP: NEVER LOOK IN SOMEONE ELSE'S DOCUMENTS FOLDER.

Keeping your analyses organised

You ran an experiment.

You downloaded the data.

You wrote an Rmarkdown document to process the data and run your analysis.

You wrote your report based on that output.

Where do you put all of this?

RStudio Projects

You should have been using [RStudio projects](#) already during the course - if not, make sure you read up on them.

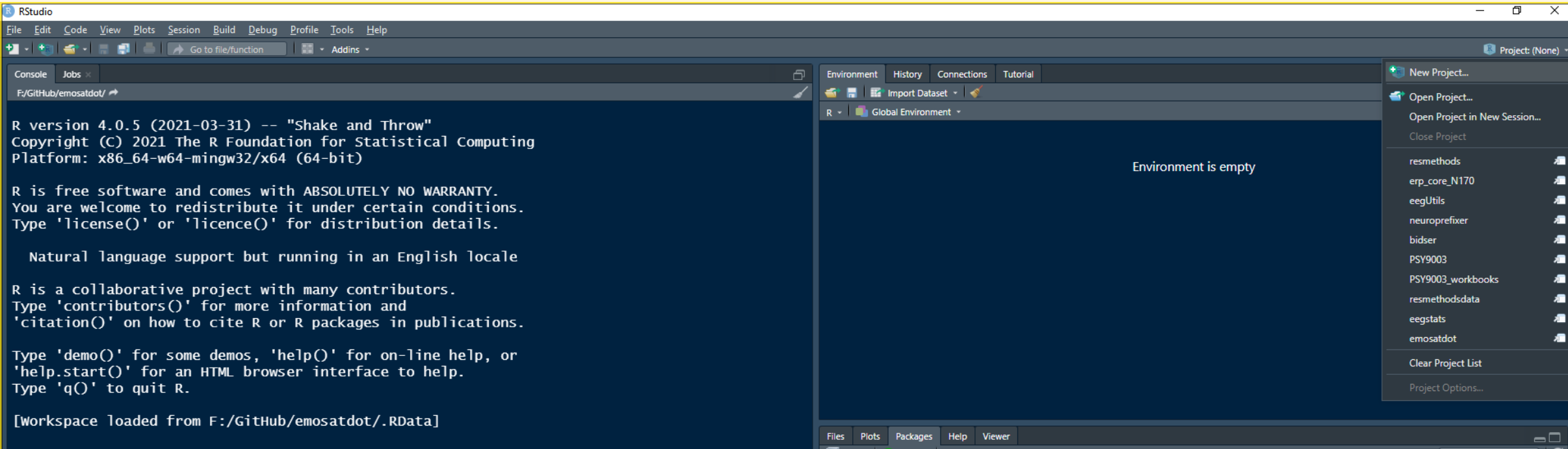
Projects provide a neat way to organise your work into neat, individually tailored sets of directories.

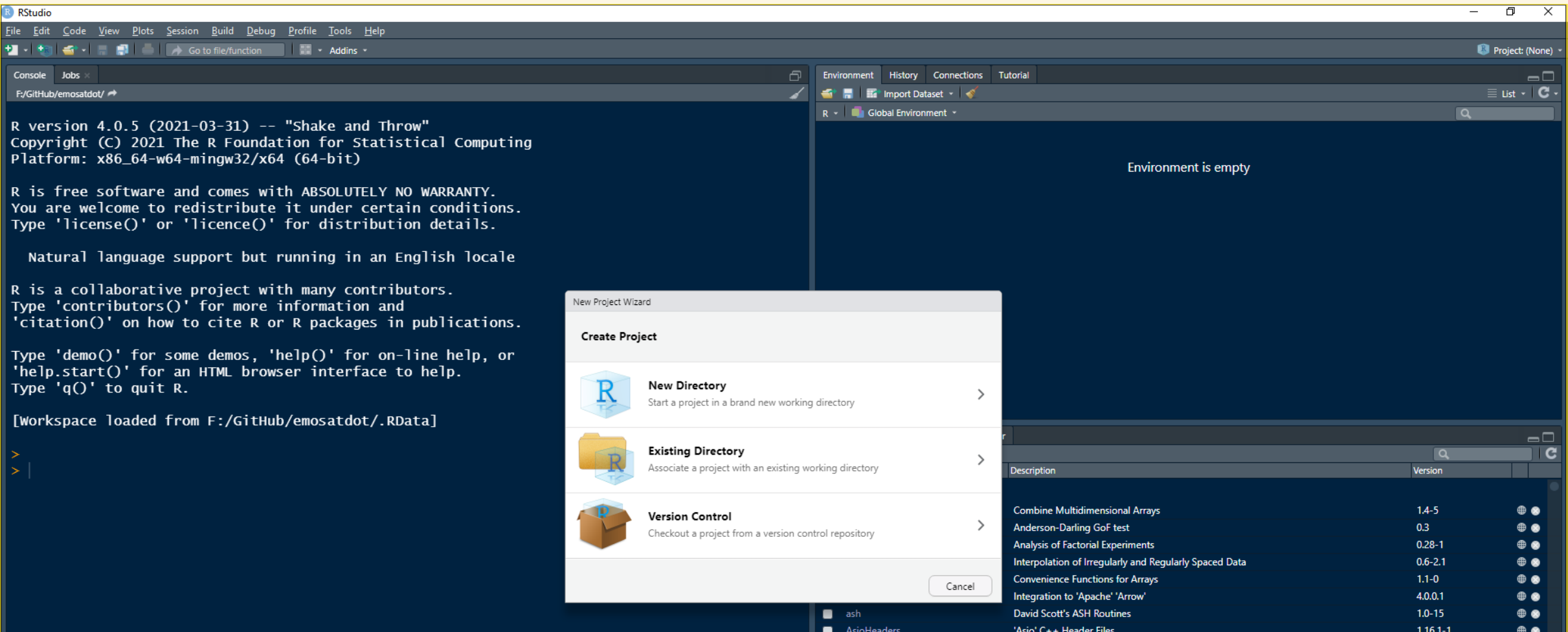
If you use [RStudio.cloud](#), each project you create is in fact a completely separate instance of R

The screenshot displays the RStudio application window. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. Below the menu is a toolbar with icons for file operations and a 'Go to file/function' search bar. The main workspace is divided into several panes:

- Console:** Shows the R startup message: "R version 4.0.5 (2021-03-31) -- 'Shake and Throw' Copyright (C) 2021 The R Foundation for Statistical Computing Platform: x86_64-w64-mingw32/x64 (64-bit)". It also displays the license information: "R is free software and comes with ABSOLUTELY NO WARRANTY. You are welcome to redistribute it under certain conditions. Type 'license()' or 'licence()' for distribution details." and the locale setting: "Natural language support but running in an English locale". Further down, it lists contributors and help options: "R is a collaborative project with many contributors. Type 'contributors()' for more information and 'citation()' on how to cite R or R packages in publications. Type 'demo()' for some demos, 'help()' for on-line help, or 'help.start()' for an HTML browser interface to help. Type 'q()' to quit R." The console ends with "[Workspace loaded from F:/GitHub/emosatdot/.RData]" and a prompt ">".
- Environment:** Labeled "Global Environment", it contains the text "Environment is empty".
- Files:** Shows a table of installed packages in the "User Library".

Name	Description	Version
abind	Combine Multidimensional Arrays	1.4-5
ABCtest	Answer-Driven Co-Test	0.2





RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

Project: (None)

Environment History Connections Tutorial

Import Dataset

R Global Environment

Environment is empty

```
R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
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Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Workspace loaded from F:/GitHub/emosatdot/.RData]
>
> |
```

New Project Wizard

Back Create New Project

Directory name: demo_project

Create project as subdirectory of: F:/GitHub Browse...

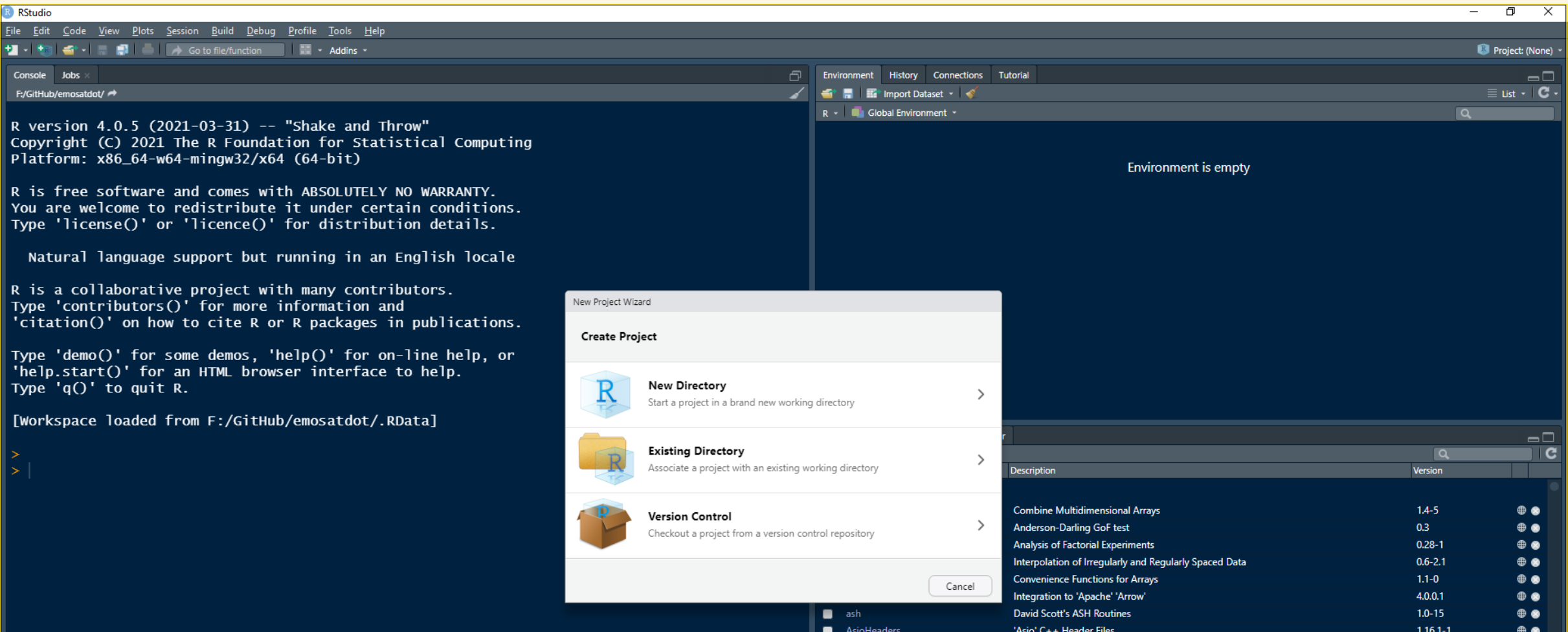
Create a git repository

Use renv with this project

Open in new session

Create Project Cancel

Description	Version		
Combine Multidimensional Arrays	1.4-5	🌐	⦿
Anderson-Darling Gof test	0.3	🌐	⦿
Analysis of Factorial Experiments	0.28-1	🌐	⦿
Interpolation of Irregularly and Regularly Spaced Data	0.6-2.1	🌐	⦿
Convenience Functions for Arrays	1.1-0	🌐	⦿
Integration to 'Apache' 'Arrow'	4.0.0.1	🌐	⦿
David Scott's ASH Routines	1.0-15	🌐	⦿



Keeping your analyses organised

Make a new RStudio project for each separate "project" - one for your thesis, one for your assessment, and so on.

Follow sensible structure:

Keep your data in a folder called data.

Keep your scripts in a folder called scripts.

Give your files sensible names!

For more general workflow advice, check out What They Forgot to Teach You About R at <https://rstats.wtf/>

Watch the workflow demos!

Watch the workflow demos!

On Panopto you'll find a couple of videos for this week that demonstrate some aspects of this process.

- 1) A demo of processing the raw data from the Fear of Crime study
- 2) A demo of processing the raw data from a study of mental rotation.

These videos are *largely improvised*, far from exhaustive, and may occasionally be confusing when I become confused!

Some other things you can do with R

Create slides

All of the R based lectures are created using RMarkdown and the `xaringan` package.



Create websites and blogs

The course website was created using the `distill` package.



psyresmeth.github.io/resmethods/

<https://m-clark.github.io/distill-workshop/>

Create websites and blogs

My own website and blog, www.mattcraddock.com, was created using `blogdown`



<https://www.apreshill.com/blog/2020-12-new-year-new-blogdown/>

Create interactive web apps

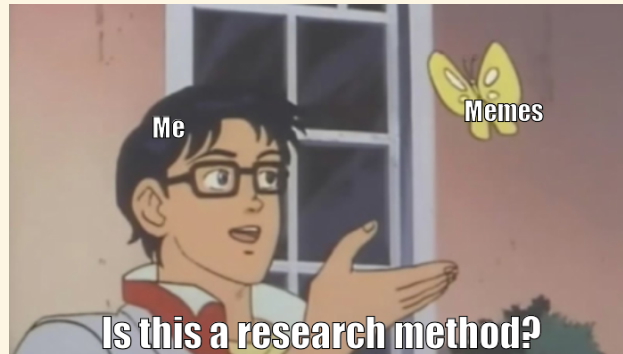
R, through the [shiny](#) package



ERP demo app

Create memes

```
library(memer)
meme_get("IsThisAPigeon") %>%
  meme_text_pigeon("Is this a research method?",
                  "Me",
                  "Memes")
```



The R community

psyTeachR - the University of Glasgow

useR

#rstats

R-Ladies Global

