Introduction to Rstudio

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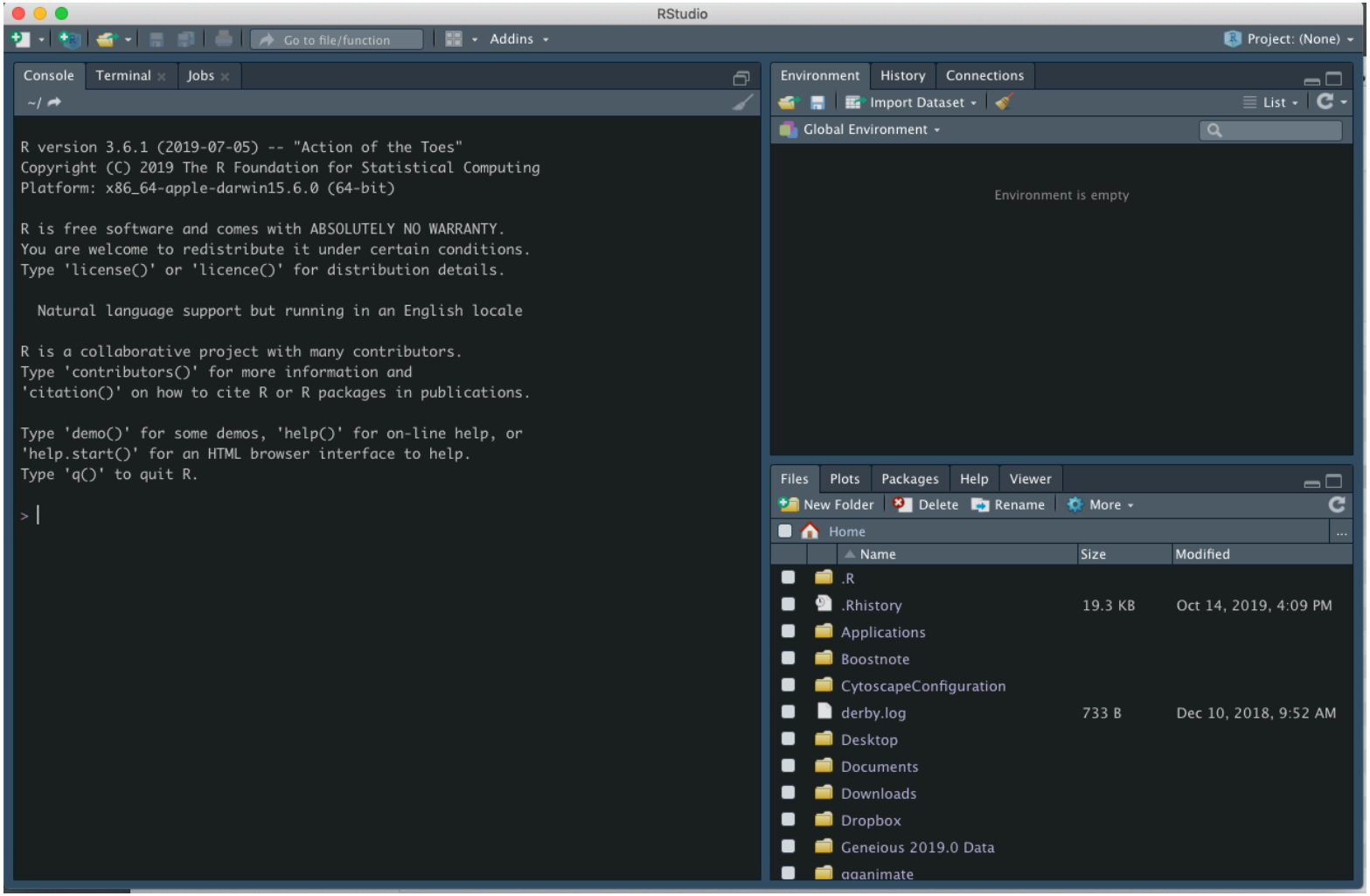
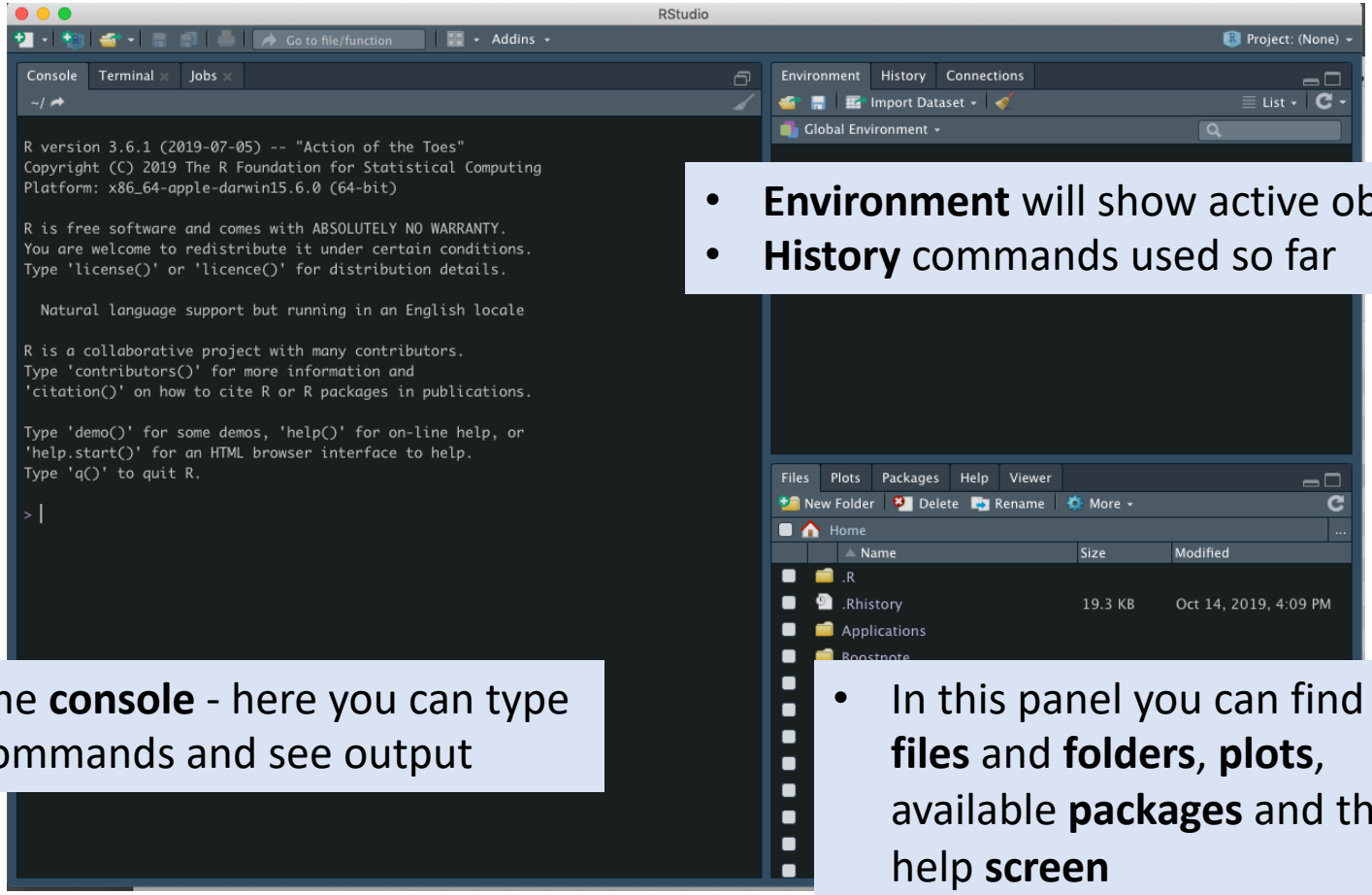
https://github.com/krabberod/BIO9905MERG1_V21

Rstudio


RStudio
Go to file/function
Addins
Project: (None)
Console
Terminal
Jobs
~/
R version 3.6.1 (2019-07-05) -- "Action of the Toes"
Copyright (C) 2019 The R Foundation for Statistical Computing
Platform: x86_64-apple-darwin15.6.0 (64-bit)
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.
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.
>
Environment
History
Connections
Import Dataset
List
Global Environment
Environment is empty
Files
Plots
Packages
Help
Viewer
New Folder
Delete
Rename
More
Home
Name
Size
Modified
.R
.Rhistory
19.3 KB
Oct 14, 2019, 4:09 PM
Applications
Boostnote
CytoscapeConfiguration
derby.log
733 B
Dec 10, 2018, 9:52 AM
Desktop
Documents
Downloads
Dropbox
Geneious 2019.0 Data
gganimate

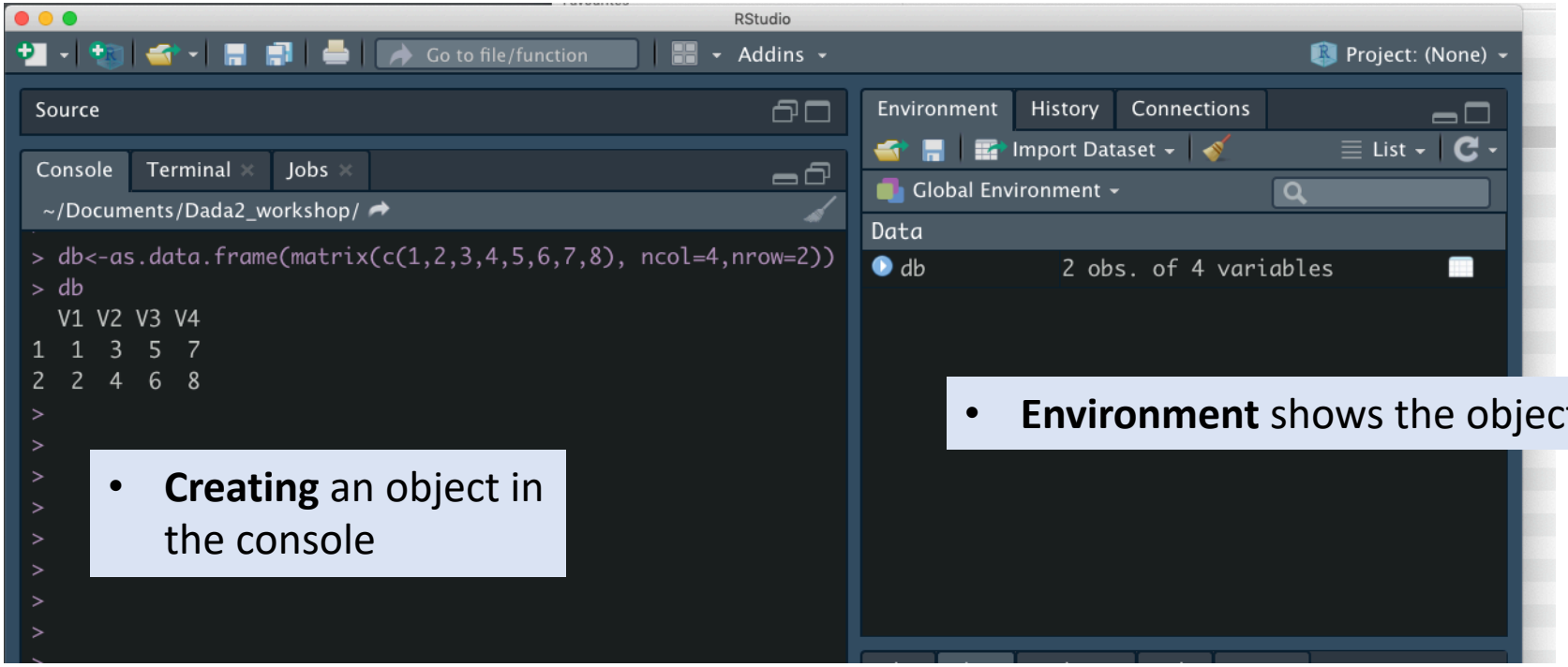
Rstudio



- **Environment** will show active objects
- **History** commands used so far

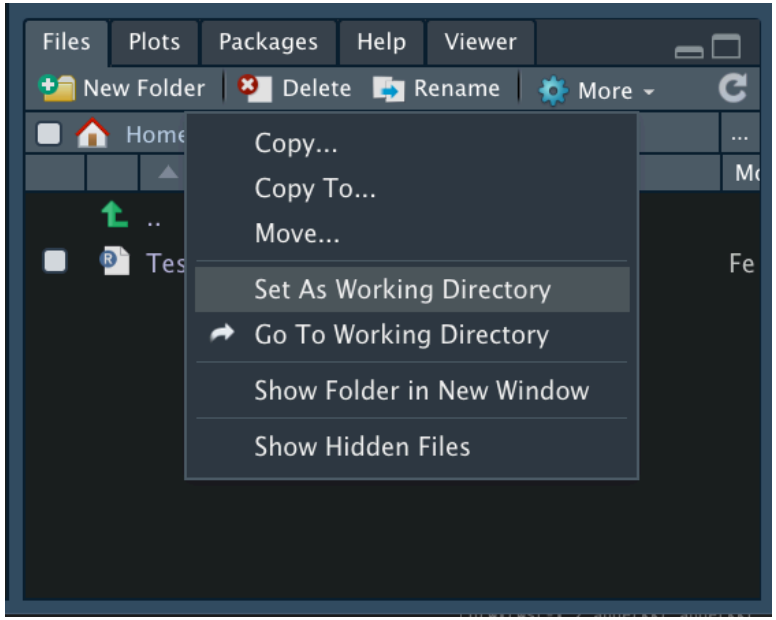
The **console** - here you can type commands and see output

- In this panel you can find **files** and **folders**, **plots**, available **packages** and the help **screen**


RStudio
Go to file/function
Addins
Project: (None)
Source
Console
Terminal
Jobs
~/Documents/Dada2_workshop/
> db<-as.data.frame(matrix(c(1,2,3,4,5,6,7,8), ncol=4,nrow=2))
> db
V1 V2 V3 V4
1 1 3 5 7
2 2 4 6 8
Environment
History
Connections
Import Dataset
List
Global Environment
Data
db
2 obs. of 4 variables
• Creating an object in the console
• Environment shows the object

Setting working directory

- Navigate to correct folder under the “files” tab
- Click “Set As Working Directory” (under *More*)



Setting working directory

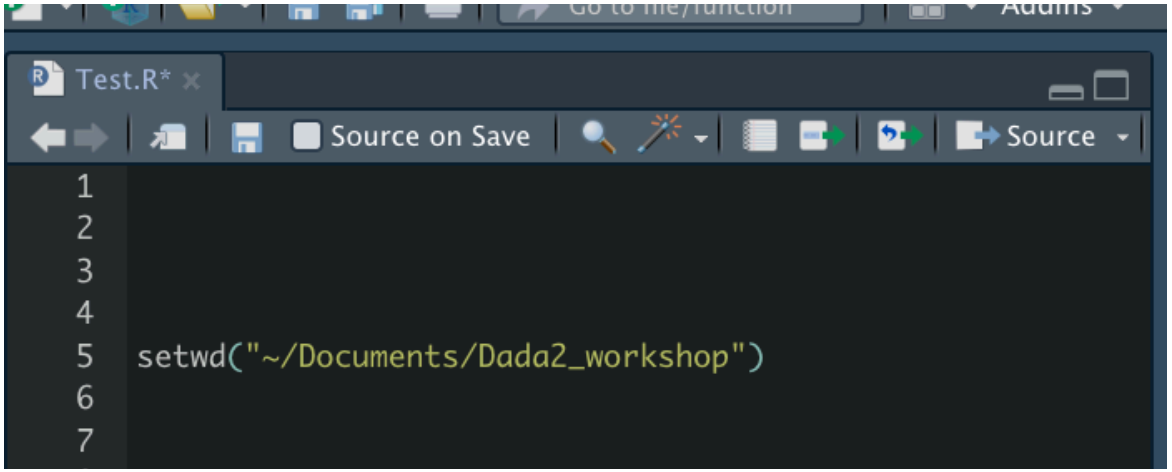
- Alternatively write

  MAC:

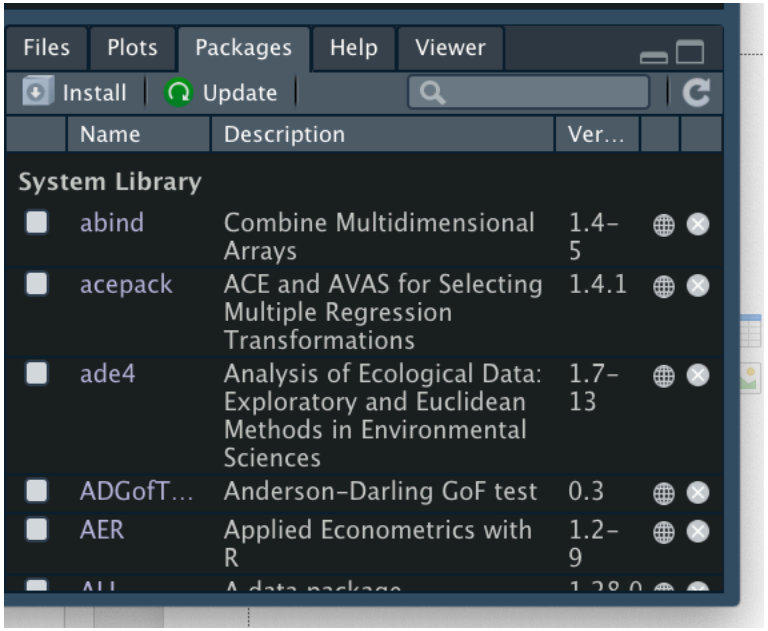
  ```
  setwd("~/path/to/my/folder")
  ```

  WINDOWS

  ```
  setwd("C:/path/to/my/folder")
  ```

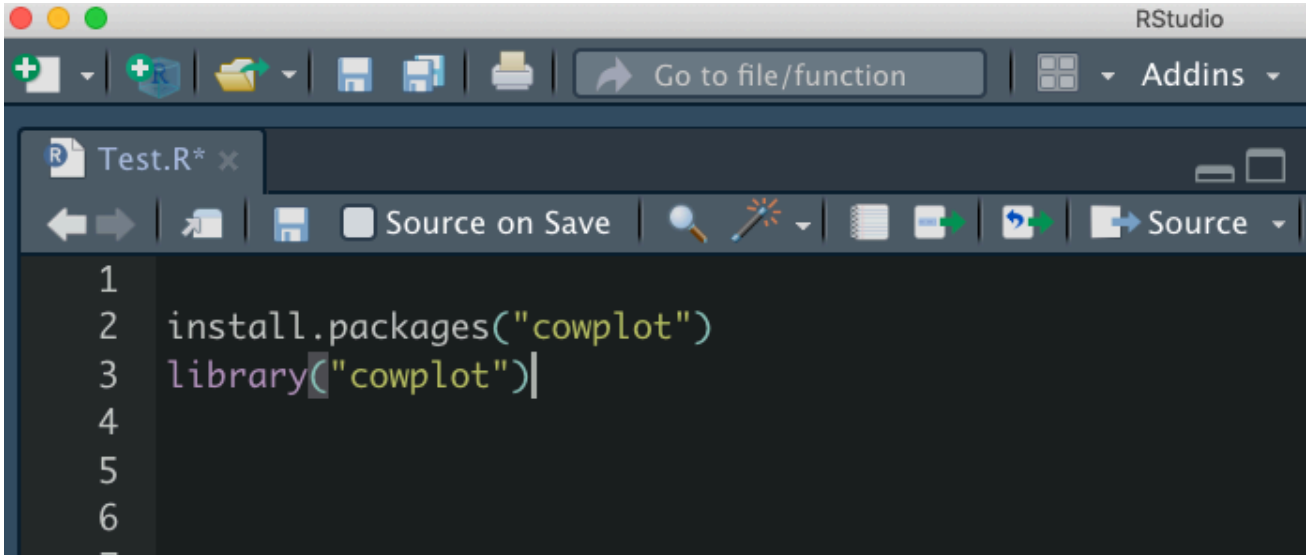


Installing packages



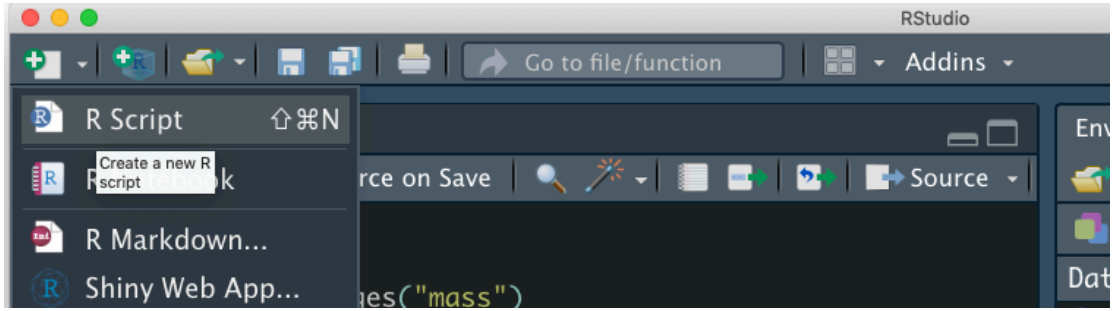
Installing packages 2

- Or use the command (with cowplot as example)
  - `install.packages("cowplot")`
- Installed packages can be loaded with the command
  - `Library("cowplot")`

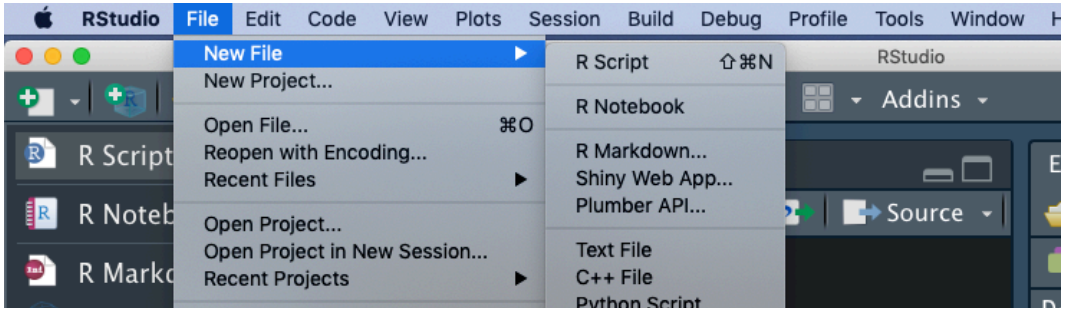


Using Scripts

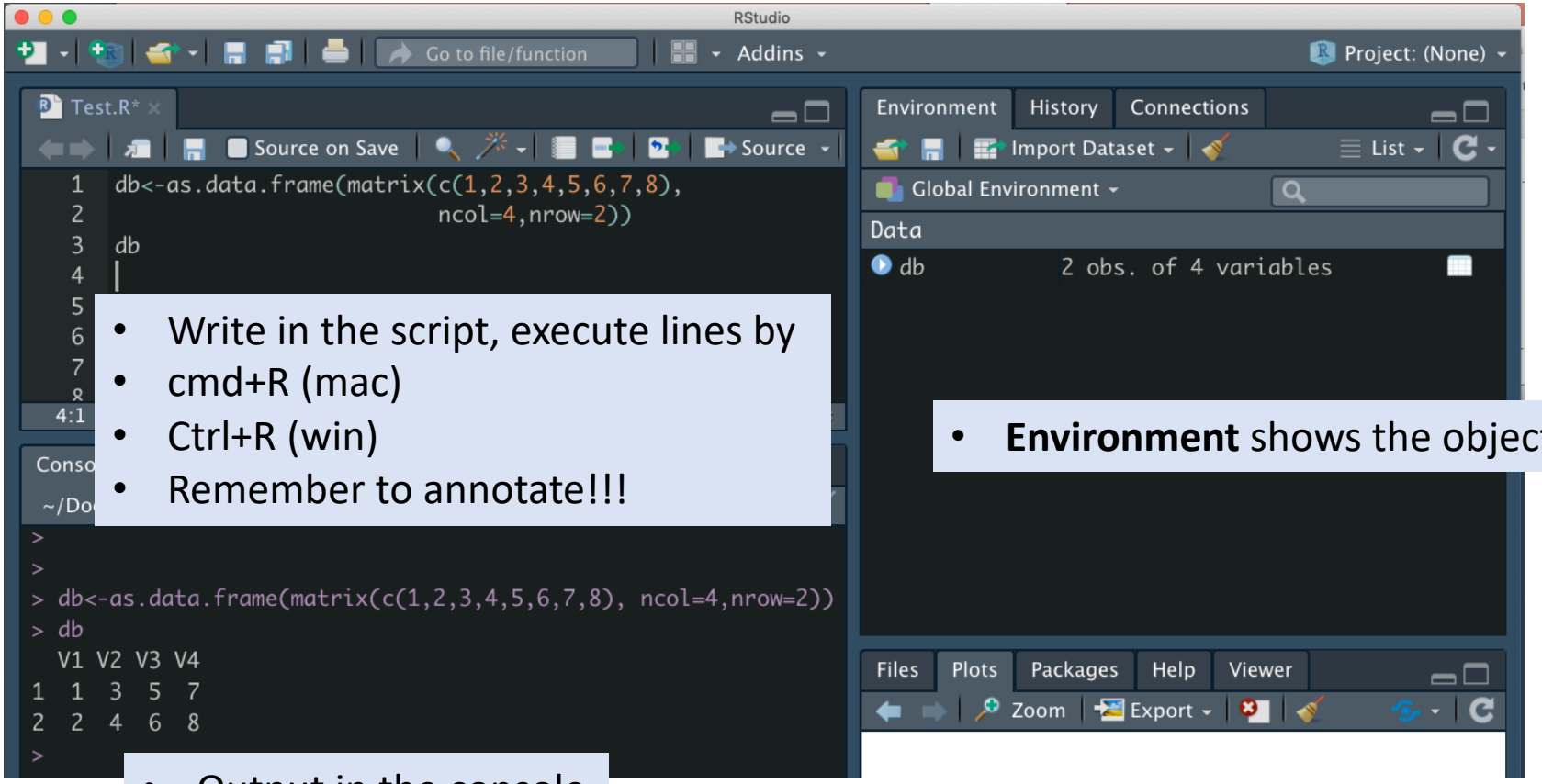
Click icon with a document and a + sign



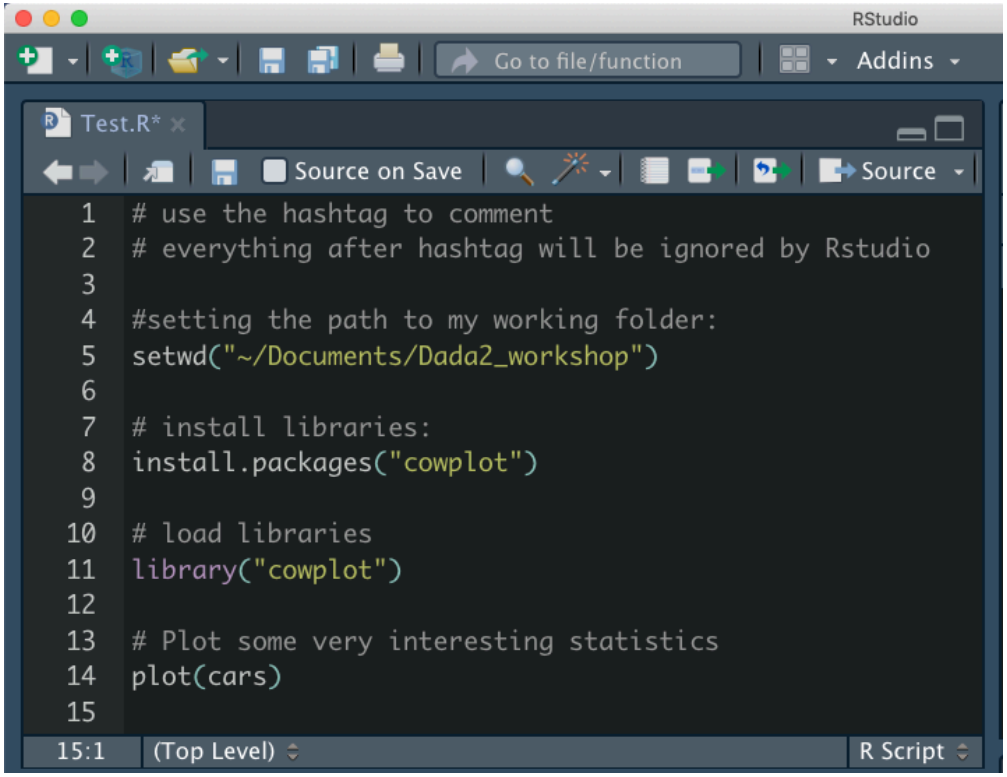
OR click File -> New File -> R Script



Using Scripts



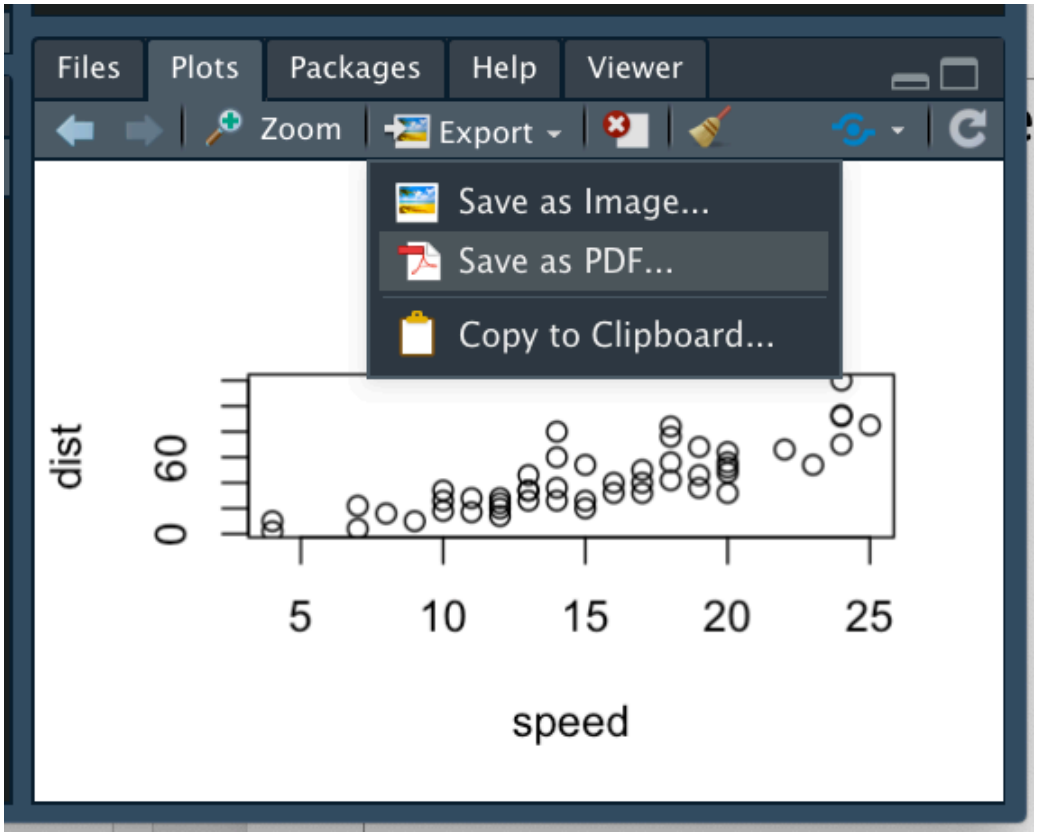
Comment and annotate your script!!!



- What the code does
- How the code does it
- How to use the code

Plotting plots and other dots

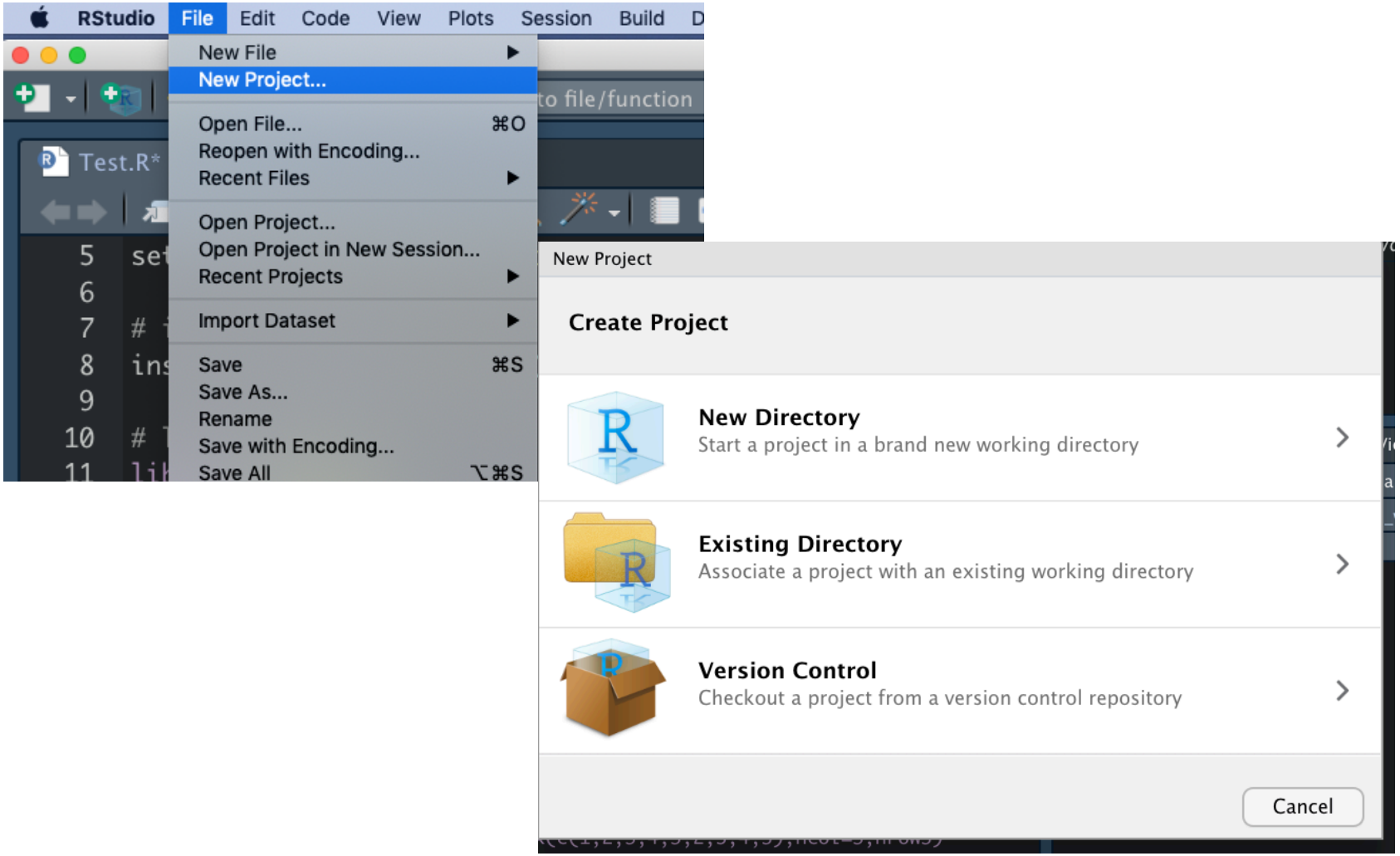
- Plots will appear in the *plots* tab and can be exported in various formats



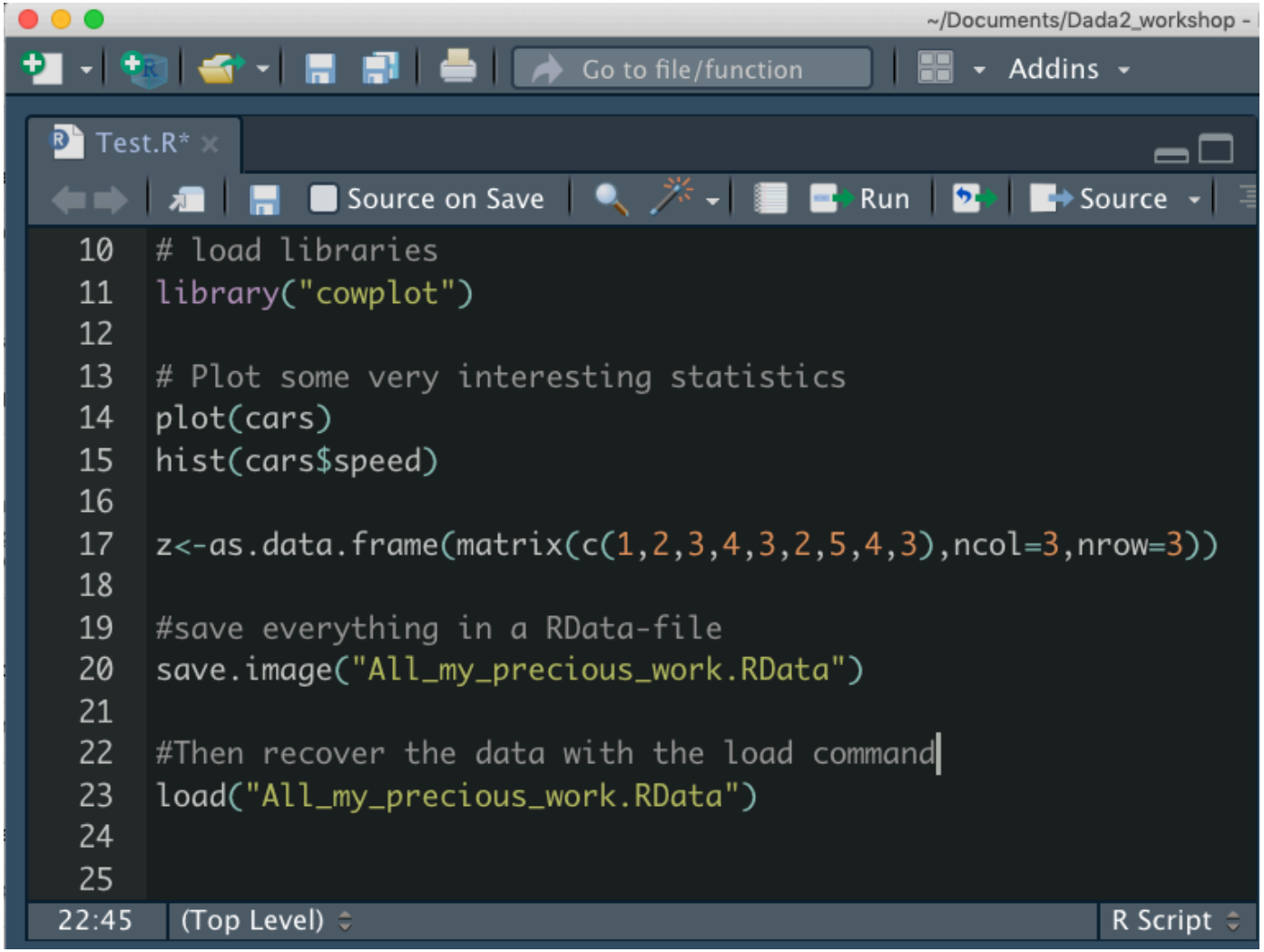
Use R-projects

- This will set the default working directory for the particular project, and makes it easy to save everything in the same folder.
- Very helpful when working on several different projects
- Also very easy to integrate with *github* and version control with the option to push and pull repositories (not covered in this workshop)
- Or for sharing all data with somebody else using Rstudio

Use R-projects



Use R-projects

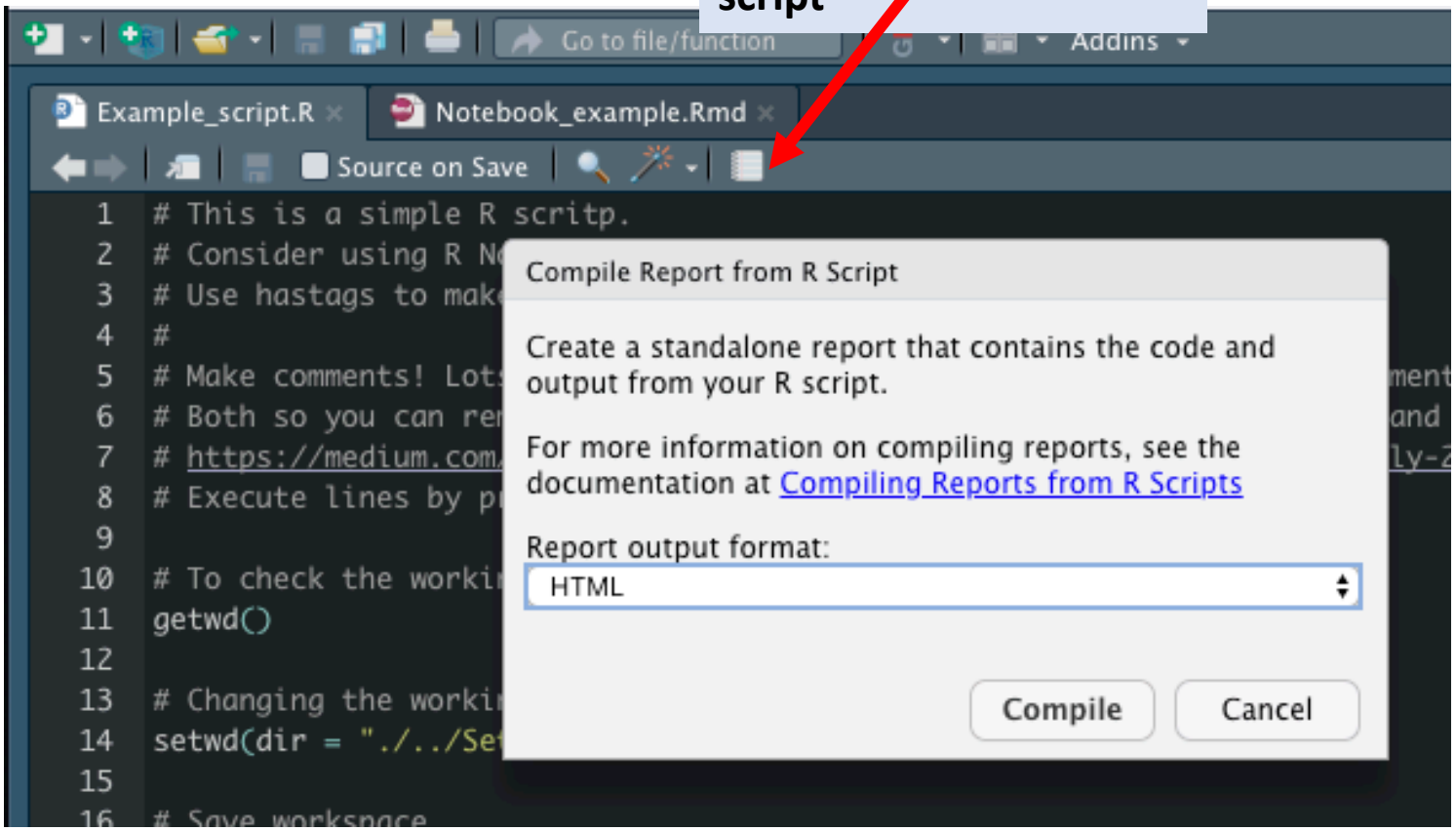


Markdown and R notebooks

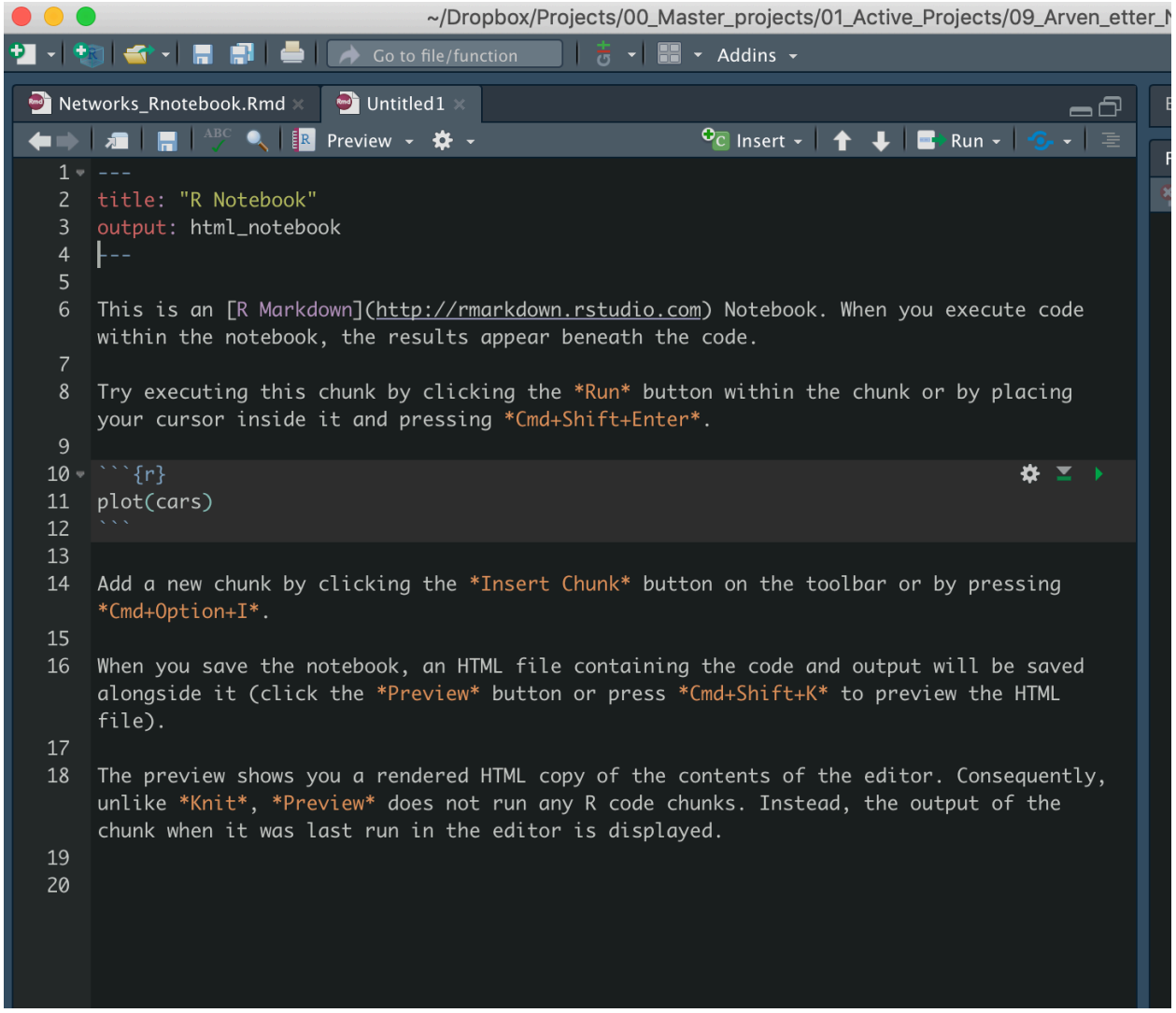
- An alternative to “simple” script in Rstudio.
- Advantage: easy to export in other easy-to-read formats (i.e. html, pdf, word, presentations).
- Markdown language is an easy way of formatting using plain text
- R Notebook is somewhat more powerful with additional options for formatting.
- Can run chunks of code from other languages *within* Rstudio
- **Disadvantage**: Not compatible with (standalone) R, which is often used on clusters and servers.

Export a report

This button will help to generate a pdf, html, or word document of your script



R Notebook


~/Dropbox/Projects/00_Master_projects/01_Active_Projects/09_Arven_etter_N
Go to file/function
Addins
Networks_Rnotebook.Rmd
Untitled1
Preview
Insert
Run
---
title: "R Notebook"
output: html_notebook

This is an [R Markdown](http://rmarkdown.rstudio.com) Notebook. When you execute code within the notebook, the results appear beneath the code.
Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Cmd+Shift+Enter*.
```{r}
plot(cars)
```
Add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Cmd+Option+I*.
When you save the notebook, an HTML file containing the code and output will be saved alongside it (click the *Preview* button or press *Cmd+Shift+K* to preview the HTML file).
The preview shows you a rendered HTML copy of the contents of the editor. Consequently, unlike *Knit*, *Preview* does not run any R code chunks. Instead, the output of the chunk when it was last run in the editor is displayed.