Loading Files

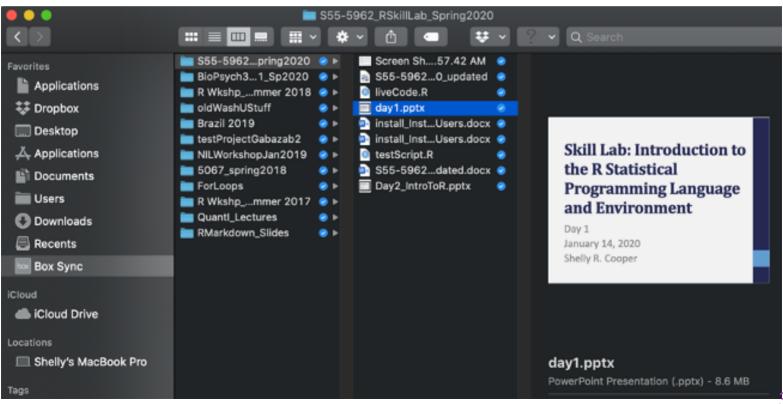
Loading & Organizing

- BE, ORGANIZED.
- It's hard to load in files if you don't know where they are
- We can use packages and tools to our advantage when we are organized
- Less typing
- Being organized will spark joy



Directories

Your computer is made up of a series of folders

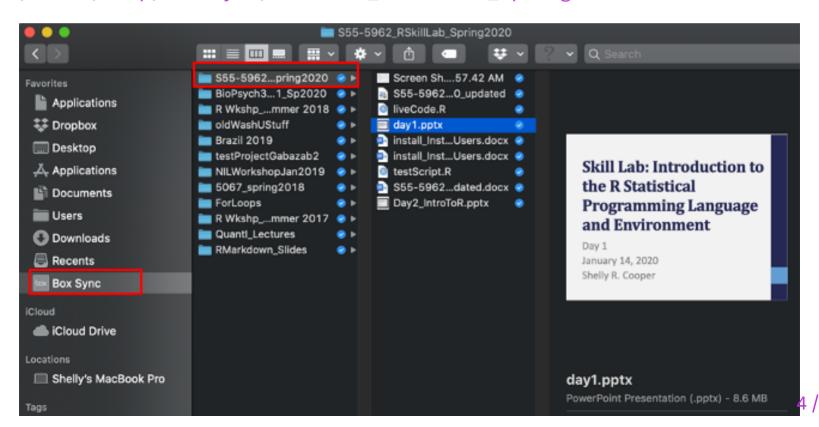


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File paths

These are the instructions that tell the computer where to find your file. What series of folders does the computer need to look to find your stuff?

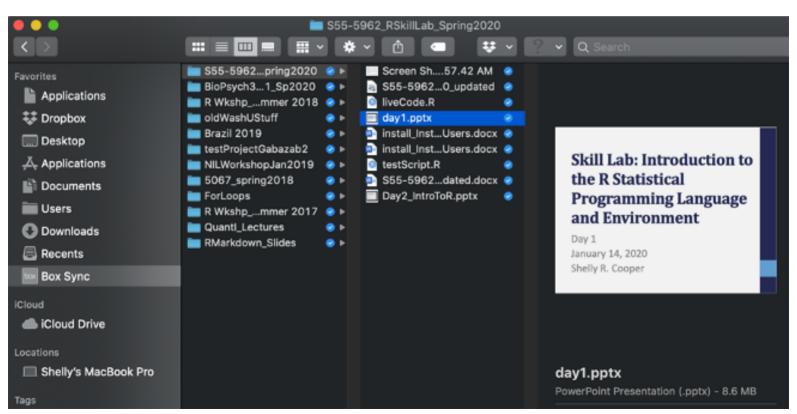
/Users/Coop/Box Sync/S55-5962_RSkillLab_Spring2020



File paths

In order to get the actual file, include the name in the file path

/Users/Coop/Box Sync/S55-5962_RSkillLab_Spring2020/day1.pptx



R is lazy!

Working Directory

- Where R is going to *look for* files
- Where R is going to save files

Working directory

How do you know your working directory?

• getwd()

How do you change your working directory?

- setwd("/your/path/goes/here")
- Note the quotes!
- HINT: press tab within the quotes and see what happens!

An Alternative: RProjects

Getting and setting your working directory can be a pain in the @\$\\$

• What happens if you reorganize your computer and you want to move the files?

RProjects provides a nice alternative with several added benefits

- 1. It syncs to Github. Excellent for version control and open science!
- 2. Your project is it's own contained ecosystem. If you move it on your computer, it doesn't matter. No need to get/set your working directory.
- 3. Easy to look for files within that project (rather than the entire computer)

We are going to make this together next Wednesday!

.R files

- Aka scripts
- Text files
- Contain the code that you've written
- (Equivalent to syntax files in SPSS)

Why use them?

- Keep track of what functions you use
- Save only the commands/functions/progress that is useful
- Make notes to yourself!
 - # Updated code for R class!
 - # reliability estimates for depression scale
 - # scatter plot for BMI predicting diabetes diagnosis
- Share your analyses with collaborators and readers

Other file types

- .RProject -- not where you would write any form of code -- more to come!
- .Rmd -- aka "RMarkdown" or "RNotebook"; will talk about for reproducibility!
- Your data!

Your data

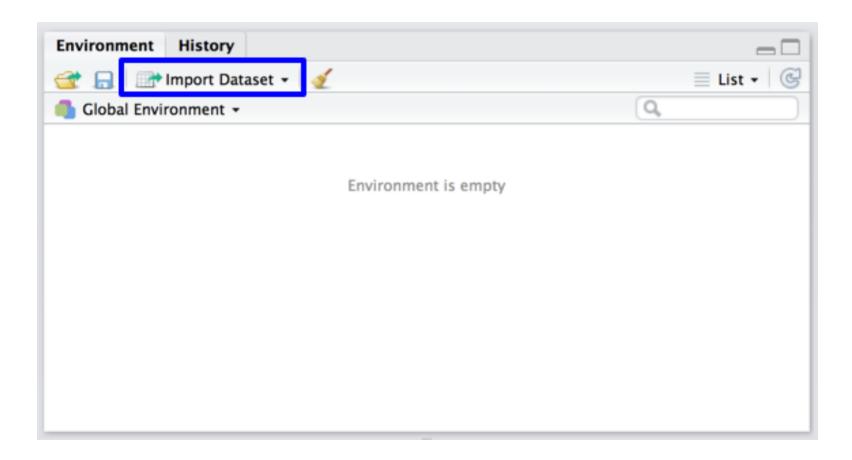
Original data files

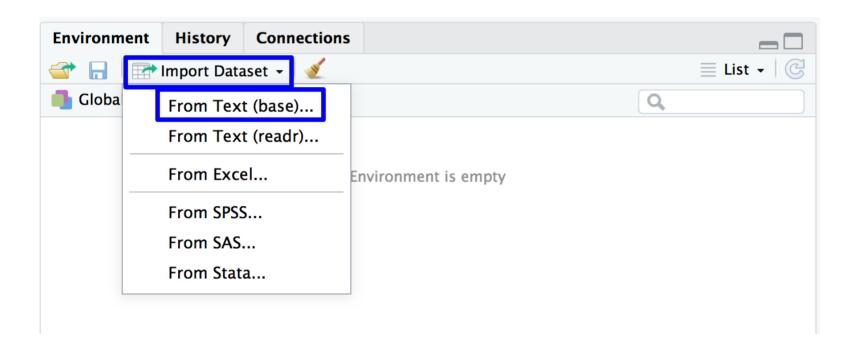
Most of the time, these will either be .csv or .txt, depending on how you collect the data

These are *NOT* altered by R! (different from SPSS)

If your data is not one of these two formats, don't worry! R can do a lot of stuff!

We will work with .csv to keep things simple.





The following line of code will appear in your console:

midus <- read.csv("~/Desktop/rSkillLab/midus.csv")</pre>

If you do *not* use a RProject, then you MUST copy/paste this line of code into your script (.R) file!

A note about Excel

- Excel is owned by Microsoft
- Microsoft is not a non-profit; they make a stupid amount of money
- When programming languages were developed, Microsoft didn't play nicely with things that weren't also owned by Microsoft
- What does this mean for you?
 - If you are working with a data file, it is better to save it as a .csv or .txt rather than .xls or .xlsx
 - It used to be really hard to get your data into R if it was a .xls or .xlsx format. It's now a lot easier. So it doesn't matter much, but if you have a say in the matter, change it.
 - Color coding/highlighting in Excel doesn't translate to R. Stop using it for data. Story time.

Typical workflow in R

- 1. Open a script (new or existing)
- 2. Prepare to run analyses:
 - Set your working directory (if not using RProject)
 - Load your data
 - Load any packages you might want to use in the analyses
- 3. Write code/run analyses
- 4. Save your script!
 - Make sure that this includes the code to open your .csv from your Dropbox/Box/Github etc.
 - Again, note: R does't change the original data file!

Typical format of .R file

```
sample script format.R* x
(iii) Source on Save Q / - [
                                                               Run Source -
  1 - #### Summarizing Happiness Survey Data ####
  2
     # get the mean and standard deviation of the age for all subjects that
     # filled out the survey
  5
     library(psych)
     library(dplyr)
  8
  9
     setwd(~/Box Sync/R-Workshop)
 10
 11
     happiness <- read.csv("~/Box Sync/R-Workshop/happiness.csv")
 12
 13
     meanAge <- mean(happiness$Age)
```