## **Using the Shell**

## **Objectives**

- · Understand the what and why of the shell
- Use the shell to navigate your computer's file system
- Use RStudio projects to simplify file system navigation
- · Know your options for finding help

## Lesson outline

- · Review of last week
  - ▶ What happened as you were trying to re-organize projects or R code? Victories? Stumbling blocks?
- Slides: Intro to the shell
  - ▶ What is the shell?
  - ▶ What does the shell let us do?
  - Why would we want to learn how to use the shell?
- Breakout rooms: Shell installation
  - ► Instructor notes include links to git installation for both Mac and Windows.
  - ▶ Split into 2 breakout rooms to install on different OS's.
- Break to all download shell-lesson-data
  - Link
  - ▶ Put it on your Desktop
  - Unzip using point-and-click
- Live coding: Setup RStudio
  - Open RStudio
  - ▶ Tour panes: files and terminal
  - Set up terminal pane to use bash
- Live coding: Navigating filesystems in files pane
  - ▶ Use file pane to navigate to shell-lesson-data
- Live coding: Navigate to shell-lesson-data in Terminal
  - ▶ Identify the prompt and note that it is different in zsh (%)
  - pwd
  - ▶ cd
  - ▶ ls
    - Use 1s flags to explain anatomy of a shell command
    - Show man ls to show flag options for the ls command
- · Live coding: Synchronizing file panes
  - ► Show "Go to current directory" to bring Terminal to files pane
  - Show "New terminal here" to create a terminal in files pane

- Show that Rstudio's working directory is not automatically wherever either Terminal or the file pane is
- Live coding: using Rprojects to simplify filesystems
  - ► Create an R project
  - ▶ Show that, upon opening, Terminal, getwd(), and file pane are all on the same page
- Live coding: cp and move
  - ▶ Copy shell lesson data to the Rproject.
  - ► Tell them we need cp, then use cp --help to get the options
  - ▶ Repeat using ls to explore contents of shell\_lesson\_data and mirror files pane
- Live coding/discussion: options for finding help
  - ▶ --help flag
  - man pages
  - ▶ Manual pages: ? in R, package websites
  - StackOverflow
  - ▶ ChatGPT
- Homework for next session
  - ► Read https://peerj.com/preprints/3159/ git (Version control prep)
  - Create a diagram of your file system and note your most frequently used directories

## **Installation & materials**

- 1. Slides
- 2. macOS git installation
- 3. Windows git installation (detailed step-by-step here)
- 4. Software Carpentry Unix Shell episode #1
- 5. Software Carpentry Unix Shell episode #2
- 6. Software Carpentry Unix Shell episode #3 (time permitting)