



LAB 01 – Welcome!

PH142 Fall 2025

General Lab Overview

1. Announcements
2. Lecture Material Review
3. Lab Walkthrough
4. Lab Submission
5. Closing/Questions



Announcements

- **Lab01:** due 8/29 at 11:59pm
- **Quiz01:** due 9/5 at 11:59pm
- **Needs Assessment:** due 9/1 at 11:59pm



Key Course Resources

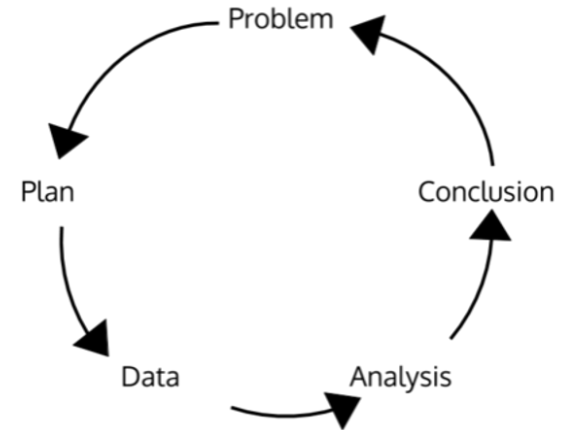
- **Course Website**
- **Datahub:** Run Rstudio
- **Ed Discussion:** Announcements, questions
- **Gradescope:** Assignment submission, grades



Week 1 Lecture Review

PPDAC Framework

- **Problem:** A clear statement of what we are trying to achieve
 - problem type – descriptive, predictive, causative/etiologic
- **Plan:** the procedure we use to carry out the study
- **Data:** data collect based on the plan
- **Analysis:** summarization and analysis of the data to answer questions posed by your problem
- **Conclusion:** what you learned from your answers to the problem



Week 1 Lecture Review

Variable Types

- **Categorical:** a variable that has grouping levels
 - **Nominal:** no underlying order or rank, e.g. blood type, zip code
 - **Ordinal:** with an underlying order or rank, e.g. blood pressure level (low, normal, high)
- **Quantitative:** a numeric variable which you can perform mathematical operations on
 - **Discrete:** can be counted, e.g. the number of cookies in the bag you got from a bakery
 - **Continuous:** can be measured precisely, with a rule or scale, e.g. 5.34 grams of cornstarch

Why We Use R

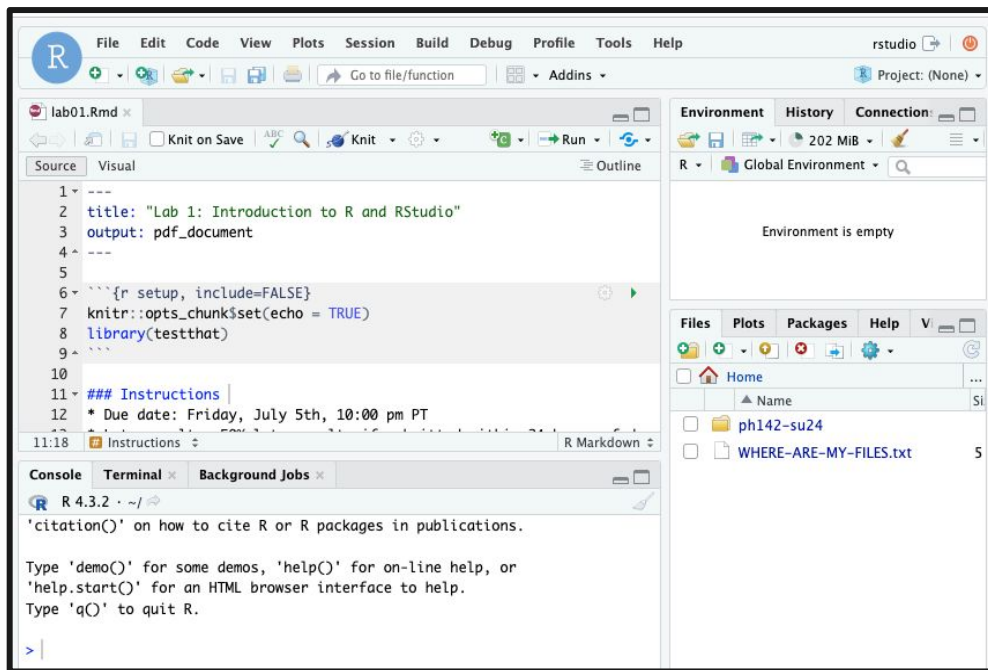
- When programming, you can easily save all your steps
 - Easy to re-run/duplicate
 - Easy to extend
- R is free and open source
 - This means that anyone can install and use it, making it more accessible than SAS/Stata
- R is flexible and ever-evolving

RStudio Panes

Source (top left): A text editor where you will write R Markdown files (labs, homework assignments, etc.)

Console (bottom left): A place to type code and see results immediately.

Ex. `2+2` → R prints `4`



Environment (top right): Shows the objects you create

Files/Packages/Help (bottom right):

- View folders
- Manage packages
- Learn function documentation

Programming in R

Calculator: R can be used as a calculator

Objects: You can store values using the arrow `<-`

- Example: `age <- 20`

Vectors: Use `c()` to combine and store multiple numbers

- Example: `ages <- c(19, 20, 21)`

Functions: Commands that perform tasks with your data

- Example: `sqrt(64)` will output 8
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LAB 01 Walkthrough

Lab Submission

- Follow the directions on the LAB01 file
- Make sure your Gradescope is set up
- Submit using the **Terminal Tab** (next to the console in the bottom left pane)
 - Copy and paste the given line into the terminal
 - Follow prompts (NOTE: the terminal will **not** show your password being typed out!)
- **CHECK IN GRADESCOPE THAT ALL YOUR TESTS PASSED**