

Lecture 1.4 – Intro to R and RStudio

Specific Learning Objectives:

1.1.1 – Understand how to use the command line.

1.1.2 – Understand how to use the help function of R.

1.1.3 – Understand the basic syntax of the R language.

1.1.4 – Execute inbuilt mathematical functions to perform calculations in R.

1.1.5 – Learn how to assign variables.

1.1.6 – Understand the basic syntax of functions in R.

1.1.7 – Open, edit, and save a script in RStudio's editor.

2.2.1 – Create reproducible scripts in R.

Introducing the “Best Error” Competition!

Every week, we will give a prize to the best error message received by a student working in R!

Prizes will be awarded for each section each week.

Each winner will be entered into a raffle for the grand prize of **2 course points** drawn at the end of the semester. Every win is a ticket!

A bonus prize will be awarded for every error that stumps the instructor!

Enter by submitting a screen shot of the error to Slacks #besterror channel!
(Be sure to include your section number.)

Check Your Understanding

Syntax is important here! Using a space between the < and - will change the meaning of the command.

Try these: do they all have the same result? Why or why not?

a) `x<-2`

b) `x <- 2`

c) `x< - 2`

Does it matter which way the arrow points?

Try these: which work and which produce errors?

d) `7 -> j`

b) `7 <- j`

c) `j -> 7`

Functions in R

Check your understanding!

What happens if you enter the numbers into mean without the **c()**? Or like this:

```
> mean(1, 9, 8, 2)
```

Why does it do this?

Why would the mean not calculate correctly based on the help documentation for **mean()**?



About R assignments

- You will be turning in assignments in R as R Markdown files

- Scripts must have the extension “.RMD”
- Please include the assignment number in the script name
- Include your name, course number, section number, date, and assignment number in the header of the file.
- Please fill in answers and code in the template provided.

- How your answers will be scored:

- Grader will download your file and hit “Knit” on top, then evaluate output based on the assignment question.
- If there is an error on knit, it will be scored 0 (unless that’s part of the assignment!) Please CHECK FIRST that it will run by starting a new R session and then previewing your file!

For the rest of the class...

- **In-class exercises:**

1. Write a short explanation about how to install a package using:
 - a) RStudio's GUI package manager
 - b) command line in R
2. Assignment 1.5

Action Items

- 1. Complete Assignment 1.5**
- 2. Read Davies Chapter 4 for next time.**