Name: _____ LA Initials: [ ]

Lab 1: Introduction to R, RStudio, and Posit Cloud

Overview

In this lab you will set up your Posit Cloud account and complete your first guided interaction with R using RStudio. You will learn how to enter commands, recognize console behavior, and begin working with R scripts.

You will complete a **paper handout** alongside this lab. That handout serves two purposes:

1. Learning assistants (LAs) will use it to verify completion
2. You will keep it as a reference for future labs

Learning Objectives

By the end of this lab, you will be able to:

- Create and log into a Posit Cloud account
- Open a new RStudio project in Posit Cloud
- Identify the main panes in RStudio and their purposes
- Recognize a clean command prompt and an incomplete command prompt
- Assign values to objects in R
- Write and run code from an R script
- Install and load an R package

These objectives correspond directly to questions on the lab handout.

What You Need Before You Start

- Your **Lab 1 Worksheet** (paper copy)
  Download Lab Worksheet (PDF, if needed)
- A computer with internet access
- Your MSUM email address

Part 1: Create a Posit Cloud Account

1. Go to https://posit.cloud
2. Click **Sign Up**
3. Choose **Sign up with email**
4. Use your MSUM email address
5. When prompted, select the **Cloud Free** plan

You only need the free plan for this course.

Once your account is created, log in to Posit Cloud.

> **Handout:**
> Check the boxes in Section 1 once you have successfully logged in and opened RStudio.

Part 2: Create a New RStudio Project

After logging in:

1. From the Posit Cloud dashboard, click **New Project**
2. Choose **New RStudio Project**
3. Select **Empty Project**
4. Accept the default project name

This project belongs to **you**. We will not use a shared class project today.

Once the project opens, you should see the RStudio interface.

Part 3: RStudio Orientation (Follow Along)

Your instructor will walk you through the RStudio interface.

You should be able to see:

- **Console** (where R runs commands)
- **Script Editor** (where you write and save code)
- **Environment** (shows objects you have created)
- **Files / Plots / Packages** pane

Do **not** explore on your own yet. Follow along as features are introduced.

> **Handout:**
> Fill in Section 2 as these panes are explained.

Part 4: Working in the Console (Follow Along)

You will begin by typing commands **directly into the Console** as your instructor demonstrates.

Topics covered live:

- What a *clean command prompt* looks like
- What happens when a command is incomplete
- How to recover from an incomplete command
- Assigning values to objects

Type what your instructor types. Ask questions if something unexpected happens.

> **Handout:**
> Complete Section 3 and Section 4 as these ideas are introduced.

Part 5: Creating and Using a Script

Next, you will move from the Console to an R script.

Create a Script

1. Click **File → New File → R Script**
2. A blank script will open in the Script Editor

Copy This Code into Your Script

Copy **all** of the following code block and paste it into your script:

```
# Lab 1: Introduction to R and RStudio
```

```r
# Assign values
x <- 5
y <- 0.2

# Do some basic calculations
x
sqrt(9)
x + y
```

Run Code from the Script

Your instructor will show you how to:

- Run a single line of code
- Run multiple lines of code
- See results appear in the Console
- Watch objects appear in the Environment pane

You should **not** retype this code into the Console. Run it from the script.

> **Handout:**
> Make sure you can answer the questions about assigning values and interpreting code.

Part 6: Installing and Loading a Package (Follow Along)

Your instructor will demonstrate how to:

- Install an R package
- Load a package using `library()`

You only need to successfully install and load **one** package.

> **Handout:**
> Check the boxes in Section 5 once this is complete.

Before You Leave

Before leaving the lab:

1. Make sure **all required sections of your handout are filled in**
2. Show your completed handout to a Learning Assistant
3. The LA will verify completion for credit

Do **not** leave without having your handout checked.

Looking Ahead

In future labs, you will:

- Use shared class projects
- Work with data files
- Write longer scripts
- Produce tables and plots

Today's lab was about getting set up and learning how to interact with R safely and predictably.