

# Homework 2

## Overview

This assignment is to be completed individually.

## Objectives

- Demonstrate R and RStudio installation
- Demonstrate R package installation
- Write a function in R

## Grading

- Uploaded requested files, 5%
- File is properly/clearly formatted, 5%
  - Proper section headers for each part of your homework.
  - You clearly indicate which question each of your responses are associated with.
- Part A: 60%
- Part B: 30%

## Deliverables

- **.pdf file** with your responses

## Formatting

In the document that you turn in for this homework, **include a heading for each Part**. Ensure that you **clearly** indicate which question each of your responses are associated with.

## Part A. Install R and RStudio

### 1. Install R

For this course, you'll need access to a computer with R installed. To install R, navigate to <https://cran.r-project.org/>, select the appropriate operating system, and follow the instructions to download and install the most recent version of R (should be version 4.2 or higher).

- If you're having trouble, try reading the installation guide here: <https://rstudio-education.github.io/hopr/starting.html>
- If you're still having trouble getting R installed on your machine, talk to me during office hours or send me an email!

For credit on this question, take a screenshot of you running R on your computer (either in a terminal or by running the "R" application, which brings up an R console).

## 2. Install RStudio

RStudio is a free, feature-rich IDE for writing R code. I am not going to require that you to use RStudio for the rest of this class, but I strongly recommend that you do use RStudio if you are new to programming in R.

You can download and install RStudio (the free version) here: <https://posit.co/downloads/>

For credit on this question, take a screenshot of you running RStudio on your computer.

## 3. Installing packages

Throughout the semester you will need to be able to install R packages that are not pre-loaded into your R installation. For example, we'll use the **tidyverse** collection of packages for many common data wrangling tasks. The **tidyverse** packages do not come with the default installation of R, so we will need to install them.

To install the complete **tidyverse** collection of packages, you can run the following command in your R console in RStudio.

```
install.packages("tidyverse")
```

Alternatively, you can install packages through the RStudio menus: Tools > Install Packages. You would type **tidyverse** in the Packages textbox and click install.

For credit on this question, take a screenshot of you running (it must be clear that you successfully installed the package):

```
library(tidyverse)
```

If you have trouble, come talk to me after class / during office hours!

## Part B.

Read Chapter 2 of “Hands-On Programming with R”: <https://rstudio-education.github.io/hopr/basics.html>

This chapter introduces much of what we have covered in class (though there are a few things you may not have seen yet). As you read, follow along in RStudio.

## 4. R basics

By the end of the chapter, you should be able to write a function that rolls a six-sided die and returns the result. Modify the function that rolls a six-sided die to instead roll a 20-sided die. Include a screenshot of your code and a screenshot of you running your function.