> #1 Introduction

> 6+7

[1] 13

> 9+1

[1] 10

> 365+1986

[1] 2351

>

> #2 Math

> 3-4

[1] -1

> 7/10

[1] 0.7

> 6\*89

[1] 534

> 8^7

[1] 2097152

> sqrt(52)

[1] 7.211103

>

> #3 Assigning Variables

> x <- 42

> y <- 334

> x+y

[1] 376

> z <- (x+y)

> x <- 500

> x+y

[1] 834

> z

[1] 376

> # i think it still shows the original total because i haven't yet re-entered the new desired total for z. so if i made it with the new value of x it would be correct.

>

> # the rules for what the name of an object in R can be are as follows: names must start with a letter or a dot, names should only contain letters, numbers, underscore characters, and dots, and you can't use special keywords in the name.

>

> #4 Types of Data

> my\_value <- 1+3

> is.numeric(my\_value)

[1] TRUE

> my\_name <- "Caroline Kaney"

> is.numeric(my\_name)

[1] FALSE

> is.character(my\_name)

[1] TRUE

> a <- 1.333

> is.numeric(a)

[1] TRUE

> b <- TRUE

> is.logical(b)

[1] TRUE

> c <- "my name is"

> is.character(c)

[1] TRUE

> d <- Sys.Date()

> is.logical(d)

[1] FALSE

> is.character(d)

[1] FALSE

> is.factor(d)

[1] FALSE

> is.integer(d)

[1] FALSE

> is.numeric(d)

[1] FALSE

> is.numeric.Date(d)

[1] FALSE

> is.vector(d)

[1] FALSE

> is.function(d)

[1] FALSE

> is.na.POSIXlt(d)

[1] FALSE

> is.numeric.POSIXt(d)

[1] FALSE

> # i tried to figure out what sys.date() was but couldn't quite figure it out.

>

> # Part 5: Vectors

> my\_vector <- c(1,2,3,4,5)

> my\_study <- c("male","male","female","male","female","female","female")

> my\_study [2]

[1] "male"

> my\_study [3]

[1] "female"

> # i couldn't figure out how to get more than one element in one line of code. i read online that i could use [[ but i tried many times but kept receiving errors.

> names(my\_study) <- c("one","two","three","four","five","six","seven")

> my\_study

one two three four five six seven

"male" "male" "female" "male" "female" "female" "female"

> my\_study[2]

two

"male"

> my\_study["two"]

two

"male"

> my\_study[2] == my\_study["two"]

two

TRUE

>

> #Part 6: Matrices

> cx1980 <- c(7,13,8,13,5,35,9)

> cx1988 <- c(9,11,15,8,9,38,0)

> chimp <- cbind(cx1980, cx1988)

> chimp

cx1980 cx1988

[1,] 7 9

[2,] 13 11

[3,] 8 15

[4,] 13 8

[5,] 5 9

[6,] 35 38

[7,] 9 0

> chimp[1,]

cx1980 cx1988

7 9

> chimp[,1]

[1] 7 13 8 13 5 35 9

> chimp[3,2]

cx1988

15

> chimp2 <- rbind(cx1980, cx1988)

> chimp2

[,1] [,2] [,3] [,4] [,5] [,6] [,7]

cx1980 7 13 8 13 5 35 9

cx1988 9 11 15 8 9 38 0

> freg <- c(5,10,15,20, 2,4,6,8, 3,6,9,18, 1,2,3,4)

> hair <- c("black","brown","red","blonde")

> eyes <- c("brown", "blue", "hazel", "brown")

> fregmat <- matrix(freg, nr=4, nc=4, byrow = TRUE)

> dimnames(fregmat)[[1]] <- hair

> dimnames(fregmat)[[2]] <- eyes

> fregmat

brown blue hazel brown

black 5 10 15 20

brown 2 4 6 8

red 3 6 9 18

blonde 1 2 3 4

>

> # Part 7: Data Frame

> bone <- c("humerus", "radius", "ulna", "femur", "tibia", "fibula")

> size\_inches <- c(14.4, 10.4, 11.1, 19.9, 16.9, 15.9)

> injury <- sample(c("yes","no"),6,replace=TRUE)

> sample\_letter <- LETTERS [1:6]

> my\_sample <- data.frame(bone, size\_inches, injury, sample\_letter)

> my\_sample

bone size\_inches injury sample\_letter

1 humerus 14.4 no A

2 radius 10.4 yes B

3 ulna 11.1 yes C

4 femur 19.9 yes D

5 tibia 16.9 yes E

6 fibula 15.9 no F

> my\_sample$bone

[1] "humerus" "radius" "ulna" "femur" "tibia" "fibula"

> num <- c(1,2,3,4,5)

> food <- c("bread", "butter", "milk", "cheese", "coffee", "tea")

> quantity <- c(1,1,3,5,7,1)

> shopping <- data.frame(num, food, quantity)

Error in data.frame(num, food, quantity) :

arguments imply differing number of rows: 5, 6

> # there is an error in step 4 because there are only 5 variables in num but 6 in food and quantity. so to fix the issue, i need to add another variable in num.

> num <- c(1,2,3,4,5,6)

> food <- c("bread", "butter", "milk", "cheese", "coffee", "tea")

> quantity <- c(1,1,3,5,7,1)

> shopping <- data.frame(num, food, quantity)

> shopping

num food quantity

1 1 bread 1

2 2 butter 1

3 3 milk 3

4 4 cheese 5

5 5 coffee 7

6 6 tea 1

> is.character(bone)

[1] TRUE

> is.numeric(size\_inches)

[1] TRUE

> is.vector(injury)

[1] TRUE

> is.character(sample\_letter)

[1] TRUE

> is.numeric(num)

[1] TRUE

> is.character(food)

[1] TRUE

> is.numeric(quantity)

[1] TRUE

> is.data.frame(shopping)

[1] TRUE

>

> # Part 8: Comparing Values

> a <- 5

> b <- 9

> c <- 7

> d <- sqrt(49)

> a>b

[1] FALSE

> c==d

[1] TRUE

> c<=b

[1] TRUE

> temp <- c(1,5,7,9,11,14,6,8)

> 3>temp

[1] TRUE FALSE FALSE FALSE FALSE FALSE FALSE FALSE

> temp[5]>5

[1] TRUE

>

> # Part 9: Getting Data into R

> my\_data <- read.csv(file.choose(), header=T)

Error in file.choose() : file choice cancelled

> View(my\_data)

>

> # Part 10: How Did You Do?

> #1. The most challenging part of this homework was honestly getting started. I looked at it for a view days but it took me a while to finally sit down and figure it out. I was my biggest enemy and would frustrate myself if I don't figure it out right away but once I got going it got better!

> #2. I think everything was pretty clear... it just took my brain to get used to this type of data and was like learning a new language (literally).

> #3. I definitely have a way better idea of what R is all about. It may still take me a moment to get the hang of the bigger stuff but right now I'm like 90% confident in what we have done so far.

> #4. I would describe a class as a category of sorts for functions. How you explained it helped a lot for sure!

> #5. Honestly I have no idea the best way hahaha.