# Ryan Timbrook

## **Applied Data Science**

## **IST687 Intro to Data Science**, Spring 2019

## **Due Date:** 04/8/2019

## **Homework:** 1

### NetID: RTIMBROO

### SUID: 386792749

## #R Code - unexecuted

## # ---------- HW1: Intro -----------

## # create a vector "height" containing numbers

## height <- c(59,60,61,58,67,72,70)

## # create a vector "weight" containing numbers

## weight <- c(150,140,180,220,160,140,130)

## # define a variable a (a = 150)

## a <- 150

## # ---------------------------------

## # Step 1: Calculating means

## # compute, using R, the average(mean) height

## mean(height)

## # compute, using R, the average(mean) weight

## mean(weight)

## # calculate the length of the vector height (the number of elements inside the vector)

## length(height)

## # calculate the length of the vector weight (the number of elements inside the vector)

## length(weight)

## # calculate the sum of the heights

## sum(height)

## # compute the average height by dividing the sum by the length of the vector

## sum(height)/length(height)

## # compute the average weight by dividing the sum by the length of the vector

## sum(weight)/length(weight)

## # ---------------------------------

## # Step 2: Using max/min functions

## # compute the max height, store the result in maxH

## maxH <- max(height)

## maxH

## # compute the min weight, store the results in minW

## minW <- min(weight)

## minW

## # ---------------------------------

## # Step 3: Vector Math

## # create a new vector, which is the weight + 5 (every person gained 5 pounds)

## weightPlusFive <- weight + 5

## weightPlusFive

## # compute the pounds/inch for each person, using the new weight just created

## poundsPerInch <- weightPlusFive / height

## poundsPerInch

## # ---------------------------------

## # Step 4: Using Conditional if statements

## # test if max height is greater than 60 (output yes or no)

## if(max(height)>60) print("yes") else print("no")

## # test if min weight is greater than the variable âaâ (output yes or no)

## if(min(weight)>a) print("yes") else print("no")

#R Code – unexecuted

> # ---------- HW1: Intro -----------

>

> # create a vector "height" containing numbers

> height <- c(59,60,61,58,67,72,70)

> # create a vector "weight" containing numbers

> weight <- c(150,140,180,220,160,140,130)

> # define a variable a (a = 150)

> a <- 150

>

> # ---------------------------------

> # Step 1: Calculating means

> # compute, using R, the average(mean) height

> mean(height)

[1] 63.85714

>

> # compute, using R, the average(mean) weight

> mean(weight)

[1] 160

>

> # calculate the length of the vector height (the number of elements inside the vector)

> length(height)

[1] 7

>

> # calculate the length of the vector weight (the number of elements inside the vector)

> length(weight)

[1] 7

>

> # calculate the sum of the heights

> sum(height)

[1] 447

>

> # compute the average height by dividing the sum by the length of the vector

> sum(height)/length(height)

[1] 63.85714

>

> # compute the average weight by dividing the sum by the length of the vector

> sum(weight)/length(weight)

[1] 160

>

>

> # ---------------------------------

> # Step 2: Using max/min functions

> # compute the max height, store the result in maxH

> maxH <- max(height)

> maxH

[1] 72

>

> # compute the min weight, store the results in minW

> minW <- min(weight)

> minW

[1] 130

>

> # ---------------------------------

> # Step 3: Vector Math

> # create a new vector, which is the weight + 5 (every person gained 5 pounds)

> weightPlusFive <- weight + 5

> weightPlusFive

[1] 155 145 185 225 165 145 135

>

> # compute the pounds/inch for each person, using the new weight just created

> poundsPerInch <- weightPlusFive / height

> poundsPerInch

[1] 2.627119 2.416667 3.032787 3.879310 2.462687 2.013889 1.928571

>

> # ---------------------------------

> # Step 4: Using Conditional if statements

> # test if max height is greater than 60 (output yes or no)

> if(max(height)>60) print("yes") else print("no")

[1] "yes"

>

> # test if min weight is greater than the variable âaâ (output yes or no)

> if(min(weight)>a) print("yes") else print("no")

[1] "no"