## Homework 1 - 19 Jul 2018

#--------------Intro--------------

# Defining height, weight, and a

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

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

a <- 150

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

# Step 1: Calculating means

# Q1) Compute, using R, the average height (called mean in R)

mean(height)

# Q2) Compute, using R, the average weight (called mean in R)

mean(weight)

# Q3) Calculate the length of the vector ‘height’ and ‘weight’

length(height)

length(weight)

# Q4) Calculate the sum of the heights

sum(height)

# Q5) Compute the average of both height and weight, by dividing the sum

# (of the height or the width, as appropriate), by the length of the vector.

# How does this compare to the ‘mean’ function?

sum(height) / length(height)

sum(weight) / length(weight)

# The values are the same!

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

# Step 2: Using max/min functions

# Q6) Compute the max height, store the result in ‘maxH’

maxH <- max(height)

# Q7) Compute the min weight, store the results in ‘minW’

minW <- min(weight)

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

# Step 3: Vector Math

# Q8) Create a new vector, which is the weight + 5 (every person gained 5 pounds)

newWeight <- weight + 5

# Q9) Compute the weight/height for each person, using the new weight just created

newWeight / height

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

# Step 4: Using Conditional if statements

# Q10) Write the R code to test if max height is greater than 60 (output “yes” or “no”)

if(maxH > 60) print("yes") else print("no")

# Q11) Write the R code to if min weight is greater than the variable ‘a’ (output “yes” or “no”)

if(minW > a) print("yes") else print("no")

**Console log w/plot**

**Executed code**

|  |
| --- |
| > ## Homework 1 - 19 Jul 2018  >  > #--------------Intro--------------  > # Defining height, weight, and a  > height <- c(59,60,61,58,67,72,70)  > weight <- c(150,140,180,220,160,140,130)  > a <- 150  >  > #---------------------------------  > # Step 1: Calculating means  >  > # Q1) Compute, using R, the average height (called mean in R)  > mean(height)  [1] 63.85714  > # Q2) Compute, using R, the average weight (called mean in R)  > mean(weight)  [1] 160  > # Q3) Calculate the length of the vector ‘height’ and ‘weight’  > length(height)  [1] 7  > length(weight)  [1] 7  > # Q4) Calculate the sum of the heights  > sum(height)  [1] 447  > # Q5) Compute the average of both height and weight, by dividing the sum  > # (of the height or the width, as appropriate), by the length of the vector.  > # How does this compare to the ‘mean’ function?  > sum(height) / length(height)  [1] 63.85714  > sum(weight) / length(weight)  [1] 160  > # The values are the same!  >  > #---------------------------------  > # Step 2: Using max/min functions  >  > # Q6) Compute the max height, store the result in ‘maxH’  > maxH <- max(height)  > # Q7) Compute the min weight, store the results in ‘minW’  > minW <- min(weight)  >  > #---------------------------------  > # Step 3: Vector Math  >  > # Q8) Create a new vector, which is the weight + 5 (every person gained 5 pounds)  > newWeight <- weight + 5  > # Q9) Compute the weight/height for each person, using the new weight just created  > newWeight / height  [1] 2.627119 2.416667 3.032787 3.879310 2.462687 2.013889 1.928571  >  > #---------------------------------  > # Step 4: Using Conditional if statements  > # Q10) Write the R code to test if max height is greater than 60  (output “yes” or “no”)  > if(maxH > 60) print("yes") else print("no")  [1] "yes"  > # Q11) Write the R code to if min weight is greater than the variable ‘a’  (output “yes” or “no”)  > if(minW > a) print("yes") else print("no")  [1] "no" |