IST 687 – Introduction to Data Science

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Thursday, January 3, 2019

Week 1: Home Work 1

```
# DEFINE HEIGHT AND WEIGHT VECTORS
height <- c(59,60,61,58,67,72,70)
weight <- c(150,140,180,220,160,140,130)

# Define variable a
a <- 150

# STEP 1: CALCULATING MEANS
# 1) Compute the  average     height
avgHeight <- mean(height)

# 2) Compute the  average     weight
avgWeight <- mean(weight)

# 3) Calculate    the   length      of    the   vector      'height'    and
      'weight'
lenHeight <- length(height)
lenWeight <- length(weight)

# 4) Calculate    the   sum   of    the   heights
sumHeight <- sum(height)
sumWeight <- sum(weight)

# 5) Compute      the   average of  both  height      and   weight
avgHeight2 <- sumHeight/lenHeight
avgWeight2 <- sumWeight/lenWeight

# compare avarages, check if both are same/equal
sameMeanHeight <- avgHeight2 == avgHeight
sameMeanWeight <- avgWeight2 == avgWeight
```

```
# STEP 2: USING MAX/MIN FUNCTIONS
# 6 Compute the max height, store the result in 'maxH'
maxH <- max(height)

# 7 Compute the min weight, store the results in 'minW'
minW <- min(weight)

# STEP 3: VECTOR MATH
# 8 Create a new vector, which is the weight + 5
weight2 <- c(weight + 5)

# 9 Compute the weight/height for each person, using the new
      weight just created
weightHeight <- c(weight2/height)
#weightHeight


# STEP 4: USING CONDITIONAL IF STATEMENTS
# 10 if max height is greater than 60 (output "yes" or
      "no")
if (maxH > 60) "yes" else "no"

# 11 if min weight is greater than the variable 'a'
      (output "yes" or
#     "no")
if (minW > a) "yes" else "no"
```