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############################################################################
#Name: Daniel Lewis
#Description: Homework Assignment 1
#Date: 01/17/2019 (JST)
#-------------HW1: Intro -----------------
#Define the      following     vectors,       which    represent      the     weight  and     height  of
people  on       a            particular     team     (in      inches   and     pounds):
height <- c(59,60,61,58,67,72,70)
weight <- c(150,140,180,220,160,140,130)
#define a variable a
a <- c(150)
#----------------------------------------
#Step1: Calculate Mean
#Compute,        using   R,       the      average height  (called mean    in       R)
mean(height)
#Compute,        using   R,       the      average weight  (called mean    in       R)
mean(weight)
#Calculate       the     length  of       the     vector  'height'        and     'weight'
length(height)
length(weight)
#Calculate       the     sum     of       the     heights
sum(height)
#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?
avgH <- sum(height)/length(height)
avgW <- sum(weight)/length(weight)
#this compares to the mean function in that it seems to give the same result except that the height is rounded in the
mean function.
#----------------------------------------
#Step2: Using max/min functions

#compute the max height, store the results in maxH
maxH <- max(height)

#computer the min weight, store the results in minW
minW <- min(weight)

#----------------------------------------
#Step 3: Vector Math
#create a new vector, which is the weight +5 (every person gained 5 pounds)
newWeight <- weight + 5

#compute the pounds/height for each person, using the new weight just created
height_to_newWeight <- data.frame(newWeight,height)

#----------------------------------------
#Step 4: Using Conditional if statements
#Write  the     R        code    to       test    if       max     height is       greater than    60       (output "yes"
or      "no")
if (maxH>60) "yes" else "no"
#)Write the     R        code    to       if       min     weight is       greater than    the     variable        'a'
(output "yes"   or "no")
if (minW>a) "yes" else "no"
```