RWorksheet_Animas#1

2024-09-17

#1 Set up the vector named age age <- c(34, 28, 22, 36, 27, 18, 52, 39, 42, 29, 35, 31, 27, 22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 42, 53, 41, 51, 35, 24, 33, 41.)

#a. How many data points? datapointsA <-length(age) datapointsA

#2. Find the reciprocal of the values for age. reciprocal_age <- 1/age reciprocal_age

#3. Assign also new_age <- c(age, 0, age). new_age <- c(age, 0, age) new_age

#What happen to the new_age? #The value (age, 0, age) has been assigned to vector new age

#4. Sort the values for age. sorted_age <- sort(age) sorted_age

#5. Find the minimum and maximum value for age. min_age <- min(age) min_age

max_age <- max(age) max_age

#6. Set up a vector named data data <- c(2.4, 2.8, 2.1, 2.5, 2.4, 2.2, 2.5, 2.3, 2.5, 2.3, 2.4, 2.7)

#a. How many data points? datapointsD<- length(data) datapointsD

#7. Generates a new vector for data where you double every value of the data. | What happen to the data? doubled_data <- data*2 doubled_data #the value of each data becomes doubled.

#8. Generate a sequence for the following scenario:

#8.1 Integers from 1 to 100. Integers_1to100<-seq(from=1, to=100, by=1) Integers_1to100

#8.2 Numbers from 20 to 60 Numbers<-seq(from=20, to=60, by = 1) Numbers

#8.3 Mean of numbers from 20 to 60 Mean_Of_20to60<- mean(seq(from=20, to=60, by = 1)) Mean_Of_20to60

#8.4 Sum of numbers from 51 to 91 Sum_Of_Numbers<- sum(seq(from=51, to=91, by = 1)) Sum_Of_Numbers

#8.5 Integers from 1 to 1,000 Integers<-seq(from=1, to=1000, by = 1) Integers

#a. How many data points from 8.1 to 8.4? total_data_points<-length(Integers_1to100)+length(Numbers)+length(Mean_O
total_data_points

#b. Write the R code and its output from 8.1 to 8.4.

#c. For 8.5 find only maximum data points until 10. seq(from=1, to=1000, by = 1) max_data_points <- max(seq(from=1, to=10, by = 1)) max_data_points

#9. *Print a vector with the integers between 1 and 100 that are not divisible by 3, 5 and 7 using filter option. numbers <- seq(1:100) non_divisible_numbers <-Filter(function(i){all(i%%c(3,5,7)!=0)}, seq(100)) non_divisible_numbers

#10. Generate a sequence backwards of the integers from 1 to 100. reversed_sequence<-(seq(from=100,to= 1, by = -1)) reversed_sequence

#11. List all the natural numbers below 25 that are multiples of 3 or 5. upper_limit<-25 below_25<- seq(from=1,to= 24, by = 1) gcm_3or5<-Filter(function(i){any (i %% c(3,5)==0)},seq(from=1,to= 24, by = 1)) gcm_3or5

#Find the sum of these multiples. sum_of_gcm<-sum(gcm_3or5) sum_of_gcm

#a. How many data points from 10 to 11? data_pointsTE<-length(reversed_sequence)+length(gcm_3or5)+length(sum_of_
data_pointsTE

#12. Statements can be grouped together using braces '{' and '}'. A group of statements is sometimes called a block. Single statements are evaluated when a new line is typed at the end of the syntactically complete statement. Blocks are not evaluated until a new line is entered after the closing brace.

#Enter this statement: x <- {0 + x + 5 + }

#Describe the output. #Error occured because the expression is not complete or incomplete.

#13. *Set up a vector named score, consisting of 72, 86, 92, 63, 88, 89, 91, 92, 75,75 and 77. To access individual elements of an atomic vector, one generally uses the x[i] construction.

score <- c(72, 86, 92, 63, 88, 89, 91, 92, 75, 75, 77)

#Find x[2] and x[3]. Write the R code and its output. x2 <- score[2] x3 <- score[3] x2 x3

#14. *Create a vector a = c(1,2,NA,4,NA,6,7) #a. Change the NA to 999 using the codes

#b. Write the R code and its output. Describe the output. print(a,na.print="999") #The NA is replaced by a value of 999.

#15 A special type of function calls can appear on the left hand side of the assignmentoperator as in > class(x) <- "foo". #Follow the codes below:

name = readline(prompt="Input your name:") age = readline(prompt="Input your age:") print(paste("My name is",name, "and I am",age ,"years old.")) print(R.version.string) #The output displays "My name is age" it is messy because you are promting the user of his/her name but it displays "My name is age".In the last part it displays the version of Rstudio installed by the user.