University of Colombo School of Computing

SCS2111 - Tutorial 2

Introduction to R

1.

a. Determine the type of the following constant.

i. 10
ii. 2e-4
iii. 2i+3
iv. 5L
v. 0*F

2.

a.

i. Create a vector which contains 10, 12, 14, 16, 18, 20 values.
ii. Create sequence with 6 equidistant numbers between 10 and 20. Hint: use *seq()*
iii. Check whether above two vectors are equal and identical.
iv. Combine above two vectors you created in question **b. i.** and **b. ii.**
v. Create vectors below and find the mean and median of those vectors.
x<-c(1:3, NA, NULL, 5)
y<- c(1:3, Inf, runif(3))

b.

i. Create three vectors A = 1:4 B= 5:8 C=9:10.
ii. Combine A, B, C vectors. Observe the short vector C. Hint: use *cbind()*
iii. Create a sequence of 12 equidistant numbers as you wish.
iv. Make above sequence into 4*3 dimension matrix.
v. Multiply above matrix and combined vector matrix which you created in question **c. ii.** and **c. iv.**

c.

i. Create the vector V1 using random 16 numbers between 1 and 10.
ii. Convert V1 to 8*2 dimension matrix M1.
iii. Multiply M1 and transpose of M1.
iv. Convert V1 to 4*4 dimension matrix M2.
v. Multiply M2 and transpose of M2.

3.

a. Run below commands using R. What are the tasks of those commands?
   i. A<-array(month.name)
   ii. factor(A)
   iii. A[-3]
   iv. dim(A)<-c(3,4)
   v. U<-list(month=A, num=1:12,fun1 = runif, fun2= factor)
   vi. U
   vii. DF<-data.frame(U$month, U$num)
   viii. DF
   ix. head(DF, 3)
   x. dim(DF)

b. Write data frame DF to text file. Hint: use *write.table*

4. Write a function to return mean, median and standard deviation of given numeric vector if vector length is greater than 5.