#Assignment 3.1 - Session: 3

#Q1 How many vowels are there in the names of USA States?

#Solution 1:

States <- rownames(USArrests)

x <- c('a','e','i','o','u')

x

y <- rep(0,times=5)

y

input <- data.frame(x,y)

input

for(i in 1:50){

test <- States[i]

n <- nchar(test)

test <- strsplit(test,"")

temp <- test[[1]]

k <- 1

while(k <= n){

if( temp[k] == 'a' || temp[k] == 'A' )

{input[1,2]=input[1,2]+1}

if( temp[k] == 'e' || temp[k] == 'E' )

{input[2,2]=input[2,2]+1}

if( temp[k] == 'i' || temp[k] == 'I' )

{input[3,2]=input[3,2]+1}

if( temp[k] == 'o' || temp[k] == 'O' )

{input[4,2]=input[4,2]+1}

if( temp[k] == 'u' || temp[k] == 'U' )

{input[5,2]=input[5,2]+1}

k <- k + 1

}

}

print(input)

#Q2: Visualize the vowels distribution.

#Solution 2:

#Using barplot

barplot(input$y,names.arg = c('A','E','I','O','U'),xlab = "Vowels",ylab="Frequency",col = "blue")