SESSION 4 – ASSIGNMENT 4.3

Date: 7th Jan 2019

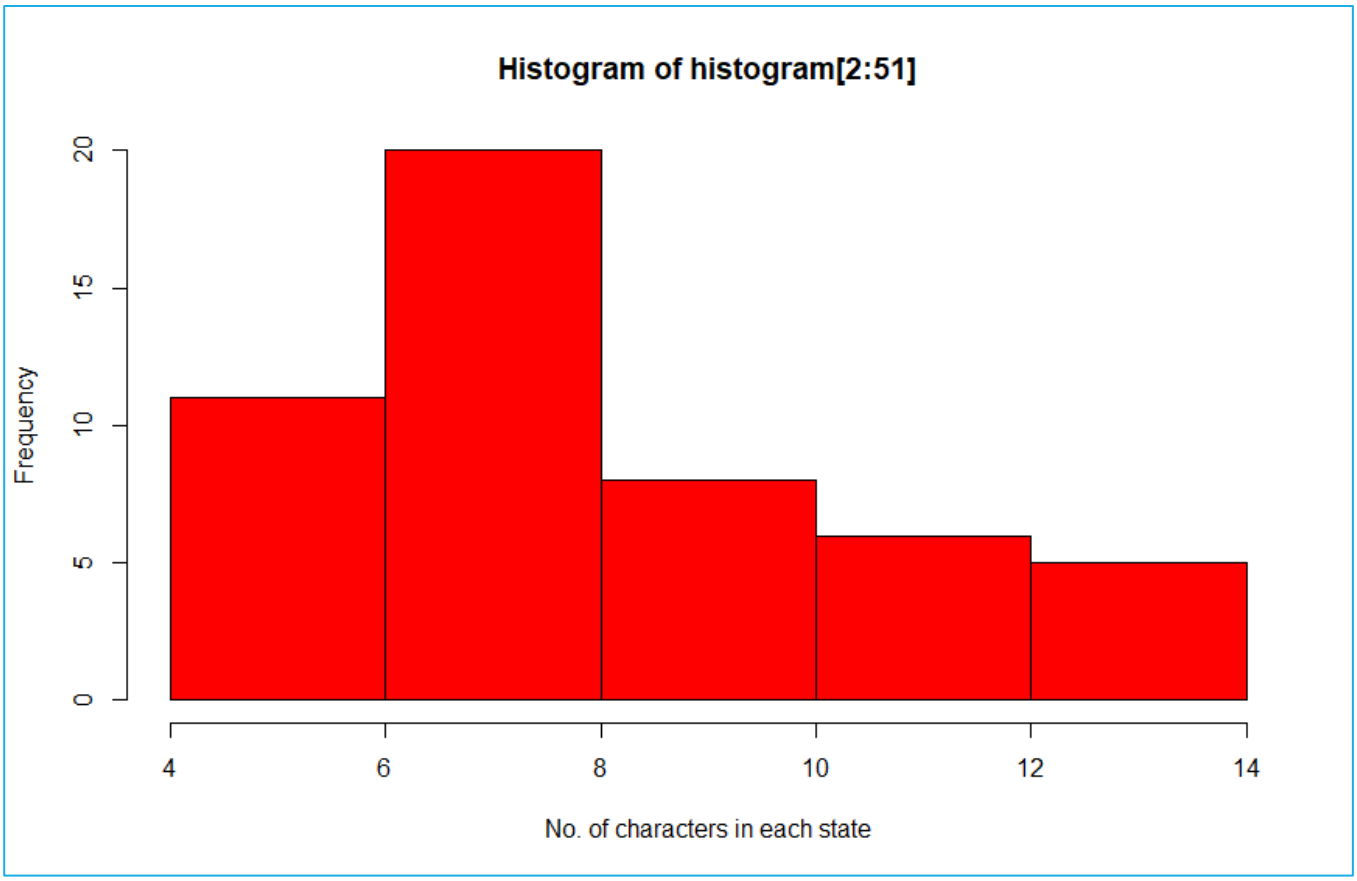
1. states=rownames(USArrests)
   - Get states names with ‘w’.
   - Get states names with ‘W’.

```
States = rownames(USArrests)
rownames(USArrests)
#Get states names with 'w'.
grep("w",rownames(USArrests))
x<-grep("w",States)
for (i in 1:length(x)){
  print(States[x[i]])
}
#Get states names with 'W'.
grep("W",rownames(USArrests))
y<-grep("W",States)
for (i in 1:length(y)){
  print(States[y[i]])
}
```

```
> States = rownames(USArrests)
> rownames(USArrests)
 [1] "Alabama"        "Alaska"         "Arizona"        "Arkansas"       "California"     "Colorado"
 [7] "Connecticut"    "Delaware"       "Florida"        "Georgia"        "Hawaii"         "Idaho"
[13] "Illinois"       "Indiana"        "Iowa"           "Kansas"         "Kentucky"       "Louisiana"
[19] "Maine"          "Maryland"       "Massachusetts"  "Michigan"       "Minnesota"      "Mississippi"
[25] "Missouri"       "Montana"        "Nebraska"       "Nevada"         "New Hampshire"  "New Jersey"
[31] "New Mexico"     "New York"       "North Carolina" "North Dakota"   "Ohio"           "Oklahoma"
[37] "Oregon"         "Pennsylvania"   "Rhode Island"   "South Carolina" "South Dakota"   "Tennessee"
[43] "Texas"          "Utah"           "Vermont"        "Virginia"       "Washington"     "West Virginia"
[49] "Wisconsin"      "Wyoming"
> #Get states names with 'w'.
> grep("w",rownames(USArrests))
[1]  8 11 15 29 30 31 32
> x<-grep("w",States)
> for (i in 1:length(x)){
+   print(States[x[i]])
+ }
[1] "Delaware"
[1] "Hawaii"
[1] "Iowa"
[1] "New Hampshire"
[1] "New Jersey"
[1] "New Mexico"
[1] "New York"
> #Get states names with 'W'.
> grep("W",rownames(USArrests))
[1] 47 48 49 50
> y<-grep("W",States)
> for (i in 1:length(y)){
+   print(States[y[i]])
+
+ }
[1] "Washington"
[1] "West Virginia"
[1] "Wisconsin"
[1] "Wyoming"
>
```

2. Prepare a histogram of the number of characters in each US state.

```
States = rownames(USArrests)

rownames(USArrests)

histogram <- c(0)

for(i in 1:50){

  temp <- States[i]

  len <- nchar(temp)

  histogram <- c(histogram,len)

}

# As 1st element we have added is 0

# which we do not want in output so we are getting rid of it

hist(histogram[2:51],xlab="No. of characters in each state",col = "red")
```


Histogram of histogram[2:51]
Frequency
0
5
10
15
20
4
6
8
10
12
14
No. of characters in each state