Assignments for session on “BASIC STATISTICS”

1. **Histogram for all variables in a dataset mtcars. Write a program to create histograms for all columns.**

```
# Histogram of all variables

head(mtcars)

hist(mtcars$mpg,xlab = "Mpg",ylab = "Frequency",main = "Histogram of Mpg",col = "blue")

hist(mtcars$cyl,xlab = "Cyl",ylab = "Frequency",main = "Histogram of Cyl",col = "red")

hist(mtcars$disp,xlab = "disp",ylab = "Frequency",main = "Histogram of disp",col = "pink")

hist(mtcars$hp,xlab = "hp",ylab = "Frequency",main = "Histogram of hp",col = "yellow")

hist(mtcars$drat,xlab = "drat",ylab = "Frequency",main = "Histogram of drat",col = "red")

hist(mtcars$wt,xlab = "wt",ylab = "Frequency",main = "Histogram of wt",col = "blue")

hist(mtcars$qsec,xlab = "qsec",ylab = "Frequency",main = "Histogram of qsec",col = "yellow")

hist(mtcars$vs,xlab = "vs",ylab = "Frequency",main = "Histogram of vs",col = "blue")

hist(mtcars$am,xlab = "am",ylab = "Frequency",main = "Histogram of am",col = "red")

hist(mtcars$gear,xlab = "gear",ylab = "Frequency",main = "Histogram of gear",col = "blue")

hist(mtcars$carb,xlab = "carb",ylab = "Frequency",main = "Histogram of carb",col = "blue")
```

2. **Check the probability distribution of all variables in mtcars**

```
# Prabability Distribution of all variables

hist(mtcars$mpg,freq = FALSE,xlab = "Mpg",ylab = "Probability Distribution",main = "Histogram of
Mpg",col = "blue")

hist(mtcars$cyl,freq = FALSE,xlab = "Cyl",ylab = "Probability Distribution",main = "Histogram of Cyl",col =
"red")
hist(mtcars$disp,freq = FALSE,xlab = "disp",ylab = "Probability Distribution",main = "Histogram of
disp",col = "pink")
hist(mtcars$hp,freq = FALSE,xlab = "hp",ylab = "Probability Distribution",main = "Histogram of hp",col =
"yellow")
hist(mtcars$drat,freq = FALSE,xlab = "drat",ylab = "Probability Distribution",main = "Histogram of
drat",col = "red")
hist(mtcars$wt,freq = FALSE,xlab = "wt",ylab = "Probability Distribution",main = "Histogram of wt",col =
"blue")
```

```
hist(mtcars$qsec,freq = FALSE,xlab = "qsec",ylab = "Probability Distribution",main = "Histogram of qsec",col = "yellow")
hist(mtcars$vs,freq = FALSE,xlab = "vs",ylab = "Probability Distribution",main = "Histogram of vs",col = "blue")
hist(mtcars$am,freq = FALSE,xlab = "am",ylab = "Probability Distribution",main = "Histogram of am",col = "red")
hist(mtcars$gear,freq = FALSE,xlab = "gear",ylab = "Probability Distribution",main = "Histogram of gear",col = "blue")
hist(mtcars$carb,freq = FALSE,xlab = "carb",ylab = "Probability Distribution",main = "Histogram of carb",col = "blue")
```

3. Write a program to create boxplot for all variables.

 # Boxplot of all variables

```
boxplot(mtcars$cyl ,xlab = "Box plot", ylab = "cyl",main="Box plot of cyl",horizontal = T,col="red")
boxplot(mtcars$disp ,xlab = "Box plot", ylab = "disp",main="Box plot of disp",horizontal = T,col="blue")
boxplot(mtcars$hp ,xlab = "Box plot", ylab = "hp",main="Box plot of hp",horizontal = T,col="pink")
boxplot(mtcars$drat ,xlab = "Box plot", ylab = "drat",main="Box plot of drat",horizontal = T,col="red")
boxplot(mtcars$wt ,xlab = "Box plot", ylab = "wt",main="Box plot of wt",horizontal = T,col="grey")
boxplot(mtcars$qsec ,xlab = "Box plot", ylab = "qsec",main="Box plot of qsec",horizontal =T,col="green")
boxplot(mtcars$vs ,xlab = "Box plot", ylab = "vs",main="Box plot of vs",horizontal = T,col="pink")
boxplot(mtcars$am ,xlab = "Box plot", ylab = "am",main="Box plot of am",horizontal = T,col="yellow")
boxplot(mtcars$gear ,xlab = "Box plot", ylab = "gear",main="Box plot of gear",horizontal = T,col="red")
boxplot(mtcars$carb ,xlab = "Box plot", ylab = "carb",main="Box plot of carb",horizontal =T,col="blue")
```