**1. Write a program to create barplots for all the categorical columns in mtcars.**

***Ans:***

# list of categorical variables

vec = c('cyl','vs', 'am','gear', 'carb')

# converting categorical columns to factor

mtcars1 <- as.data.frame(lapply(mtcars[,vec], as.factor))

# creating barplot

par(mfrow= c(2,3))

mapply(barplot, lapply(mtcars1[,1:5], table), xlab=colnames(mtcars1))

**2. Create a scatterplot matrix by gear types in mtcars dataset.**

***Ans:***

mtcars

library(car)

scatterplotMatrix(~mpg+drat+wt+qsec|gear, data=mtcars,

main="Gear Types")

**3. Write a program to create a plot density by class variable.**

***Ans:***

mtcars

par(mfrow=c(1,1))

x <- mtcars$mpg

h<-hist(x, breaks=10, col="red", xlab="Miles Per Gallon",

main="Histogram with Normal Curve")

xfit<-seq(min(x),max(x),length=25)

yfit<-dnorm(xfit,mean=mean(x),sd=sd(x))

yfit <- yfit\*diff(h$mids[1:2])\*length(x)

lines(xfit, yfit, col="blue", lwd=2)