7.2assignment

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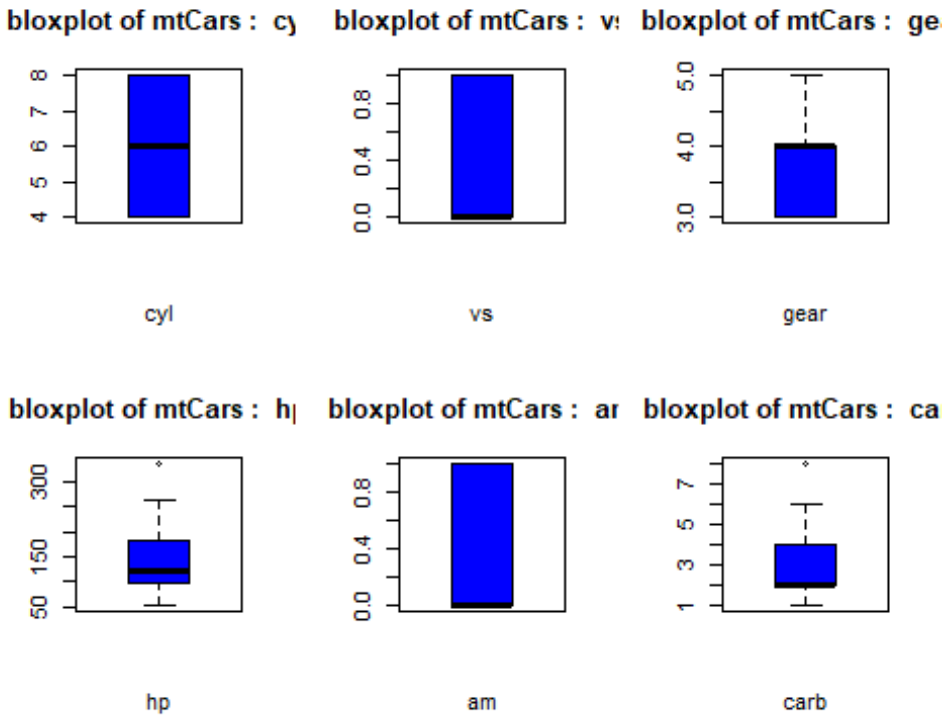
```
#Assignment 7.2

#1.  Wtite a program to create barplots for all the categorical columns in mt
cars
library(readr)
mtcarscopy <- read_csv("F:/R Notes/29Sep/mtcarscopy.csv")

## Warning: Missing column names filled in: 'X1' [1]

## Parsed with column specification:
## cols(
##   X1 = col_character(),
##   mpg = col_double(),
##   cyl = col_integer(),
##   disp = col_double(),
##   hp = col_integer(),
##   drat = col_double(),
##   wt = col_double(),
##   qsec = col_double(),
##   vs = col_integer(),
##   am = col_integer(),
##   gear = col_integer(),
##   carb = col_integer()
## )

View(mtcarscopy)

sapply(mtcarscopy,class)

##          X1         mpg         cyl        disp          hp        drat
## "character"   "numeric"   "integer"   "numeric"   "integer"   "numeric"
##          wt        qsec          vs          am        gear        carb
##   "numeric"   "numeric"   "integer"   "integer"   "integer"   "integer"

par(mfcol=c(2,3))
for (col in 1:ncol(mtcarscopy))
{
  if(is.integer(mtcarscopy[[col]])=="TRUE")
  {
    boxplot(mtcarscopy[,col],type='l',
            main=paste("bloxplot of mtCars : ",names(mtcarscopy[col])),
            xlab=names(mtcarscopy[col]),
            type="l",
```

```
            col = "blue")
  }  else{NULL}
}
```




```
par(mfcol=c(1,1))

#2. create a scatter plot matrix by gear types in mtcars dataset

install.packages("car")

## Installing package into 'C:/Users/hp/Documents/R/win-library/3.5'
## (as 'lib' is unspecified)

## Warning: unable to access index for repository http://www.stats.ox.ac.uk/p
ub/RWin/bin/windows/contrib/3.5:
##   cannot open URL 'http://www.stats.ox.ac.uk/pub/RWin/bin/windows/contrib/
3.5/PACKAGES'

## package 'car' successfully unpacked and MD5 sums checked
##
## The downloaded binary packages are in
##  C:\Users\hp\AppData\Local\Temp\RtmpQnPsef\downloaded_packages

library(car)

## Loading required package: carData
```

```r
scatterplotMatrix(~mpg + disp + drat + wt | gear, data = mtcars, main = "Thre
e gears Options")

## Warning in smoother(x[subs], y[subs], col = smoother.args$col[i], log.x =
## FALSE, : could not fit smooth

## Warning in smoother(x[subs], y[subs], col = smoother.args$col[i], log.x =
## FALSE, : could not fit smooth

## Warning in smoother(x[subs], y[subs], col = smoother.args$col[i], log.x =
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## FALSE, : could not fit smooth
```
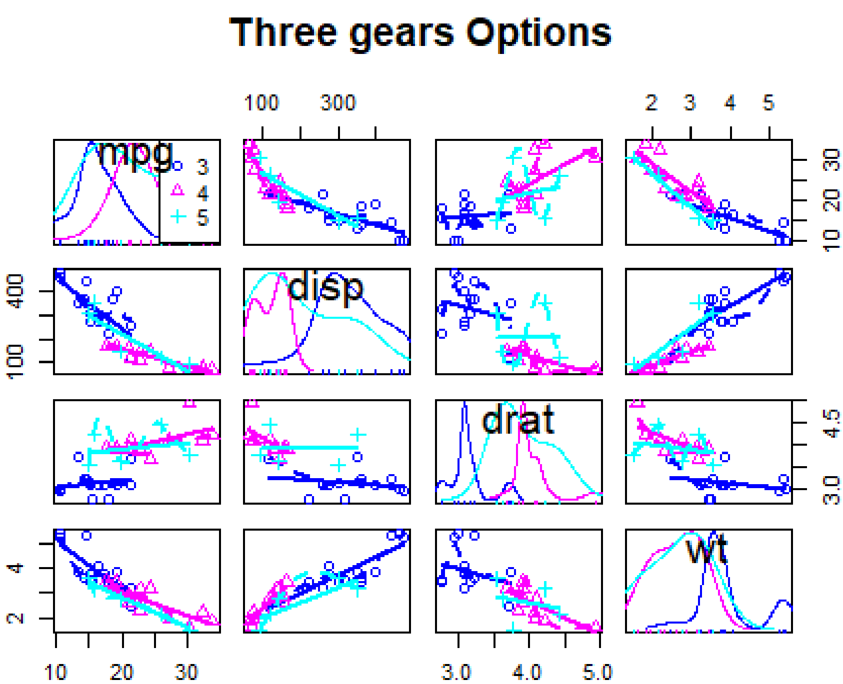
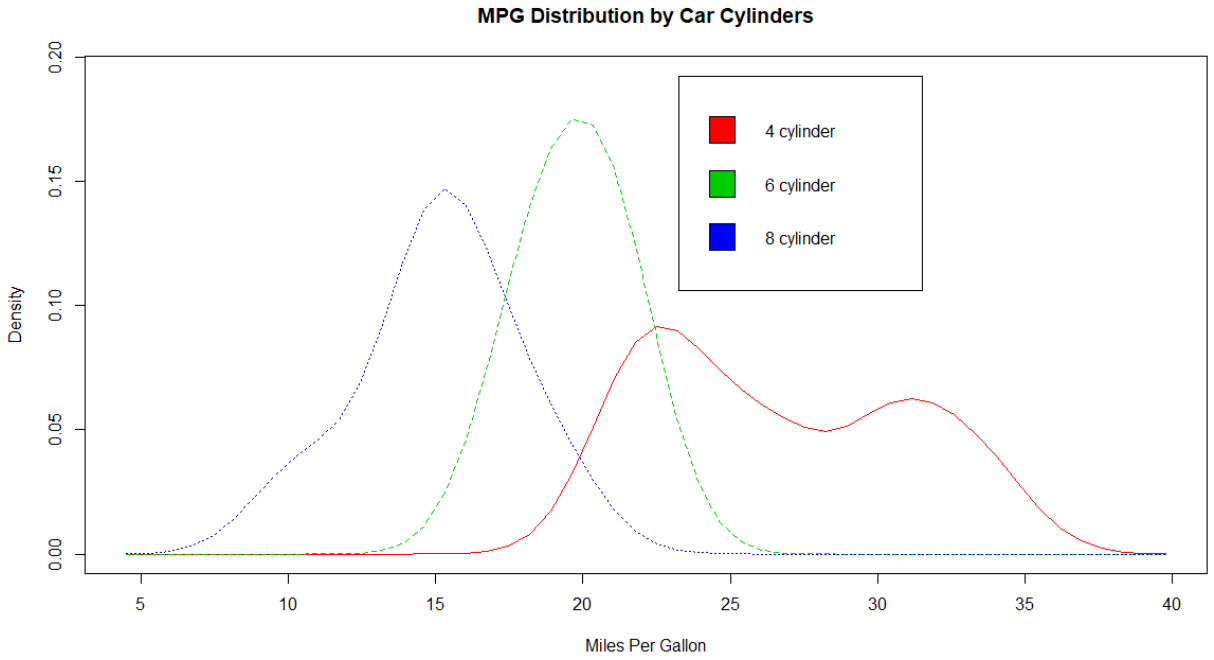



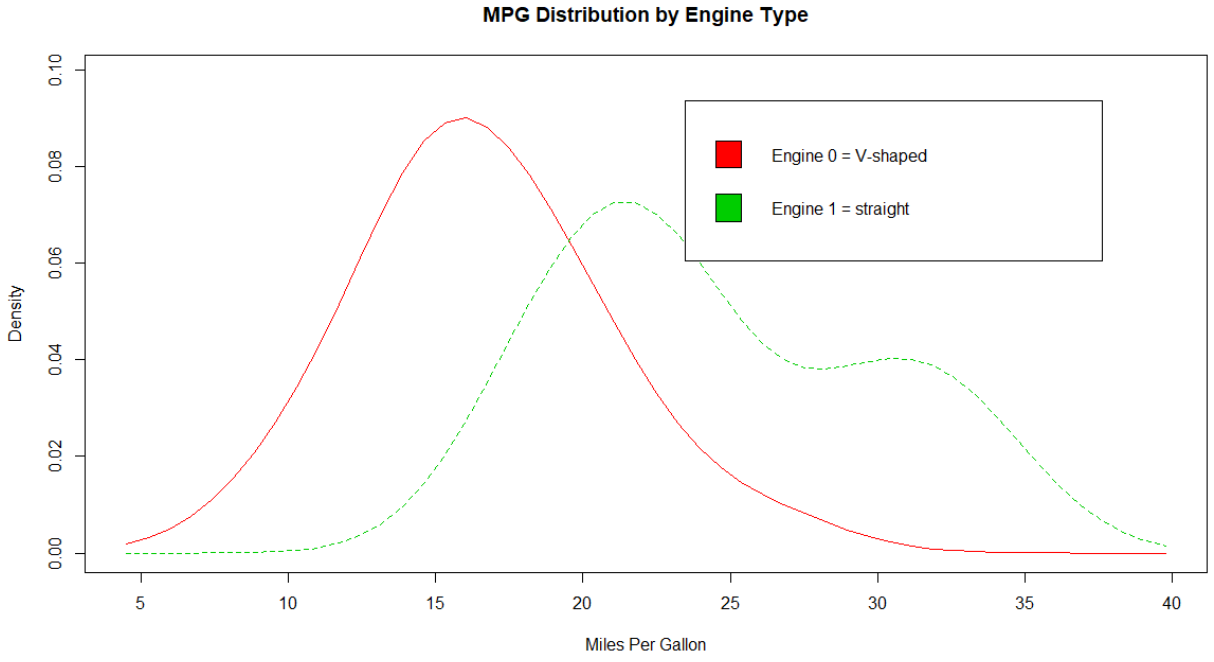
#3. Write a program to create a plot density by class variable

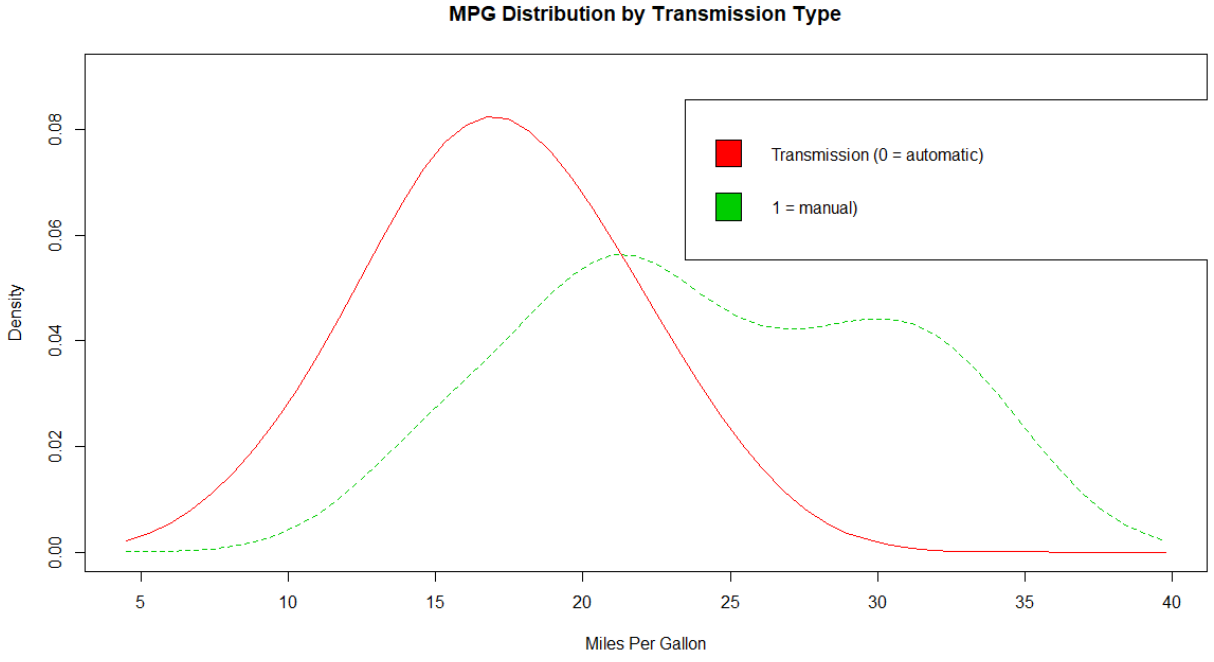
```
library(sm)
attach(mtcars)

# create value labels
cyl.f <- factor(cyl, levels= c(4,6,8),
        labels = c("4 cylinder", "6 cylinder", "8 cylinder"))

# plot densities
sm.density.compare(mpg, cyl, xlab="Miles Per Gallon")
title(main="MPG Distribution by Car Cylinders")

# add legend via mouse click
colfill<-c(2:(2+length(levels(cyl.f))))
legend(locator(1), levels(cyl.f), fill=colfill)

# for vs
library(sm)
attach(mtcars)

# create value labels
vs.f <- factor(vs, levels= c(0,1),
        labels = c("Engine 0 = V-shaped", "Engine 1 = straight"))

# plot densities
sm.density.compare(mpg, vs, xlab="Miles Per Gallon")
title(main="MPG Distribution by Engine Type")

# add legend via mouse click
```

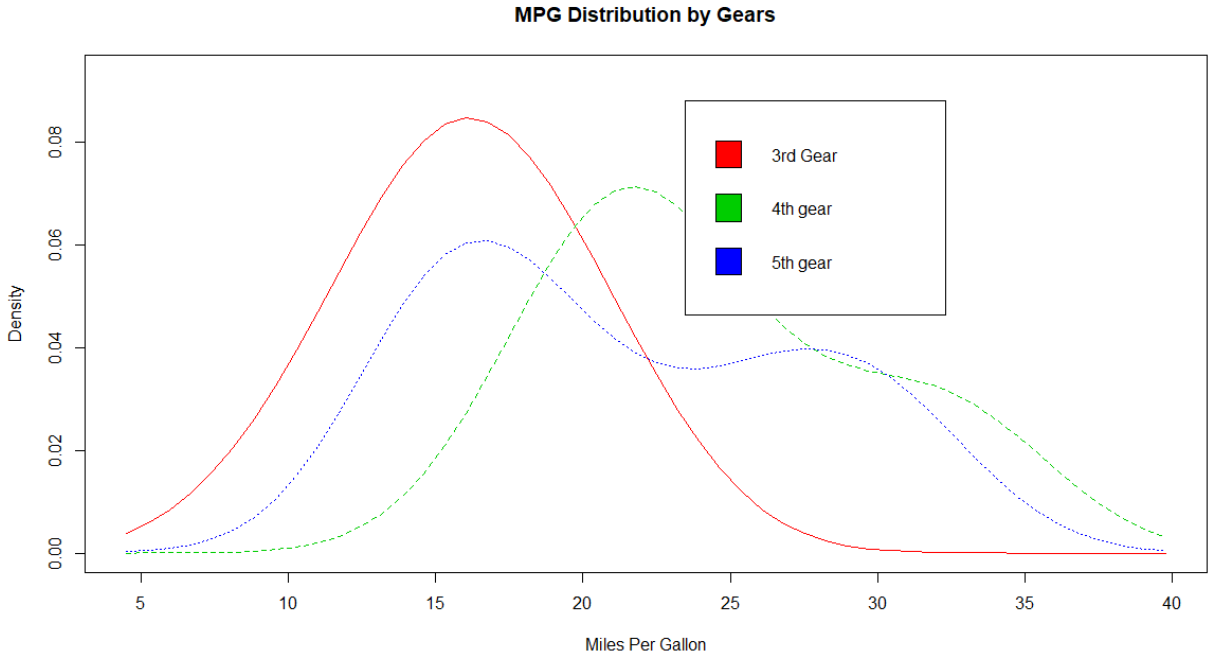
```
colfill<-c(2:(2+length(levels(vs.f))))
legend(locator(1), levels(vs.f), fill=colfill)

# for    Transmission (0 = automatic, 1 = manual)
library(sm)
attach(mtcars)

# create value labels
am.f <- factor(am, levels= c(0,1),
        labels = c("    Transmission (0 = automatic)", "1 = manual)"))

# plot densities
sm.density.compare(mpg, am, xlab="Miles Per Gallon")
title(main="MPG Distribution by Transmission Type")

# add legend via mouse click
colfill<-c(2:(2+length(levels(am.f))))
legend(locator(1), levels(am.f), fill=colfill)



# for Number of forward gears
library(sm)
attach(mtcars)

# create value labels
gear.f <- factor(gear, levels= c(3,4,5),
        labels = c("    3rd Gear", "4th gear","5th gear"))
```

```
# plot densities
sm.density.compare(mpg, gear, xlab="Miles Per Gallon")
title(main="MPG Distribution by Gears")

# add legend via mouse click
colfill<-c(2:(2+length(levels(gear.f))))
legend(locator(1), levels(gear.f), fill=colfill)
```




MPG Distribution by Engine Type
Density
0.00
0.02
0.04
0.06
0.08
0.10
5
10
15
20
25
30
35
40
Miles Per Gallon
Engine 0 = V-shaped
Engine 1 = straight


MPG Distribution by Transmission Type
Density
0.00
0.02
0.04
0.06
0.08
5
10
15
20
25
30
35
40
Miles Per Gallon
Transmission (0 = automatic)
1 = manual)


MPG Distribution by Gears
3rd Gear
4th gear
5th gear
Density
0.00
0.02
0.04
0.06
0.08
5
10
15
20
25
30
35
40
Miles Per Gallon

R Markdown