

Assignment 7.3

Aruna

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# assignment 7.3

#1. Create a box and whisker plot by class using mtcars dataset
library(tidyr)
library(plyr)
par(mfcol=c(2,3))
# Boxplot of MPG by Car Cylinders
boxplot(mpg~cyl,data=mtcars, main="Car Milage Data",
        xlab="Number of Cylinders", ylab="Miles Per Gallon", col = "cyan")

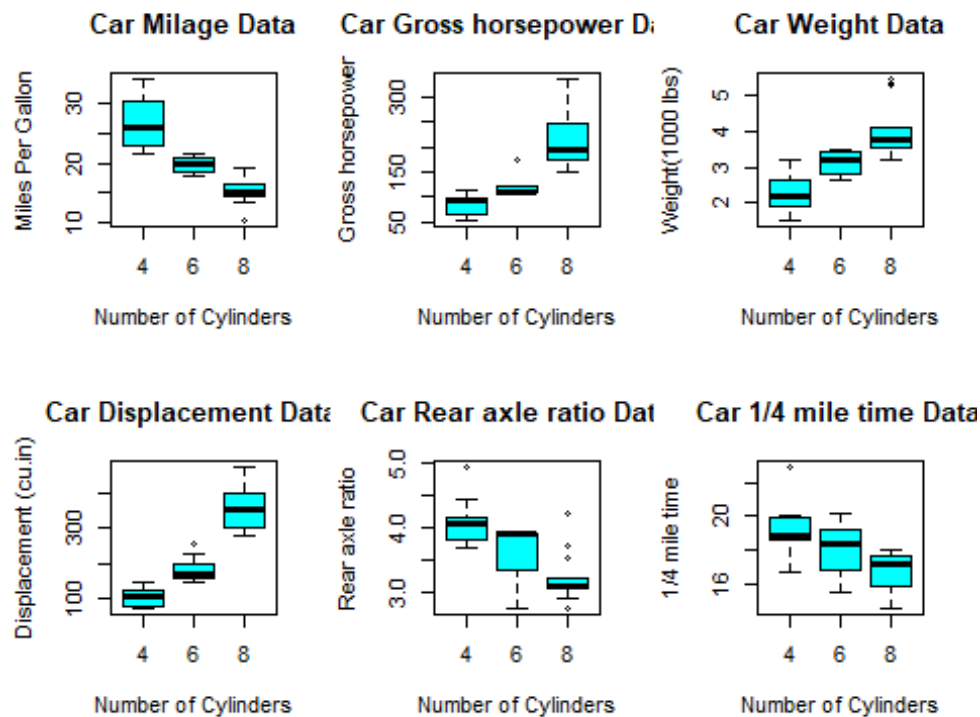
# Boxplot of Displacement by Car Cylinders
boxplot(displ~cyl,data=mtcars, main="Car Displacement Data",
        xlab="Number of Cylinders", ylab="Displacement (cu.in)", col = "cyan"
)

# Boxplot of Gross horsepower by Car Cylinders
boxplot(hp~cyl,data=mtcars, main="Car Gross horsepower Data",
        xlab="Number of Cylinders", ylab="Gross horsepower", col = "cyan")

# Boxplot of Rear axle ratio by Car Cylinders
boxplot(drat~cyl,data=mtcars, main="Car Rear axle ratio Data",
        xlab="Number of Cylinders", ylab="Rear axle ratio", col = "cyan")

# Boxplot of Weight by Car Cylinders
boxplot(wt~cyl,data=mtcars, main="Car Weight Data",
        xlab="Number of Cylinders", ylab="Weight(1000 lbs)", col = "cyan")

# Boxplot of qsec by Car Cylinders
boxplot(qsec~cyl,data=mtcars, main="Car 1/4 mile time Data",
        xlab="Number of Cylinders", ylab="1/4 mile time", col = "cyan")
```



next category variable Vs

```
par(mfcol=c(2,3))
# Boxplot of MPG by Car Engine (0 = Vshaped, 1= straight)
boxplot(mpg~vs,data=mtcars, main="Car Milage Data (0-Vshaped, 1-straight)",
        xlab="Engine Type (0-Vshaped, 1-straight)", ylab="Miles Per Gallon",
        col = "coral")

# Boxplot of Displacement by Car Engine (0 = Vshaped, 1= straight)
boxplot(displ~vs,data=mtcars, main="Car Displacement Data",
        xlab="Engine Type", ylab="Displacement (cu.in)", col = "coral")

# Boxplot of Gross horsepower by Car Engine (0 = Vshaped, 1= straight)
boxplot(hp~vs,data=mtcars, main="Car Gross horsepower Data",
        xlab="Engine Type", ylab="Gross horsepower", col = "coral")

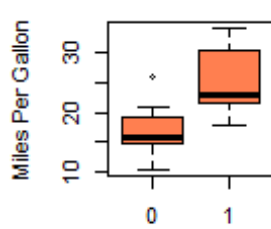
# Boxplot of Rear axle ratio by Car Engine (0 = Vshaped, 1= straight)
boxplot(drat~vs,data=mtcars, main="Car Rear axle ratio Data",
        xlab="Engine Type", ylab="Rear axle ratio", col = "coral")

# Boxplot of Weight by Car Engine (0 = Vshaped, 1= straight)
boxplot(wt~vs,data=mtcars, main="Car Weight Data",
        xlab="Engine Type", ylab="Weight(1000 lbs)", col = "coral")

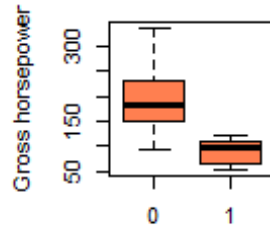
# Boxplot of qsec by Car Engine (0 = Vshaped, 1= straight)
```

```
boxplot(qsec~vs,data=mtcars, main="Car 1/4 mile time Data",
        xlab="Engine Type", ylab="1/4 mile time", col = "coral")
```

Milage Data (0-Vshaped, 1 Car Gross horsepower Data

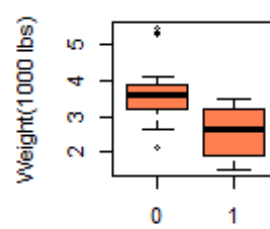


Engine Type (0-Vshaped, 1-straight)



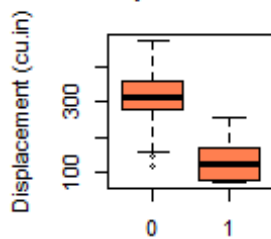
Engine Type

Car Weight Data



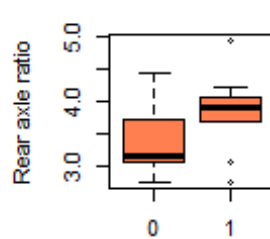
Engine Type

Car Displacement Data



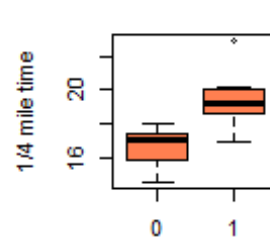
Engine Type

Car Rear axle ratio Data



Engine Type

Car 1/4 mile time Data



Engine Type

#Plot for Transmission variable

```
par(mfcol=c(2,3))
```

Boxplot of MPG by Car Engine Transmission (0 = automatic, 1 = manual)

```
boxplot(mpg~am,data=mtcars, main="Car Milage Data ",
        xlab="Transmission Type(0 = automatic, 1 = manual)", ylab="Miles Per
Gallon", col = "deeppink")
```

Boxplot of Displacement by Car Engine Transmission (0 = automatic, 1 = manual)

```
boxplot(dis~am,data=mtcars, main="Car Displacement Data",
        xlab="Transmission Type", ylab="Displacement (cu.in)", col = "deeppink")
```

Boxplot of Gross horsepower by Car Engine Transmission (0 = automatic, 1 = manual)

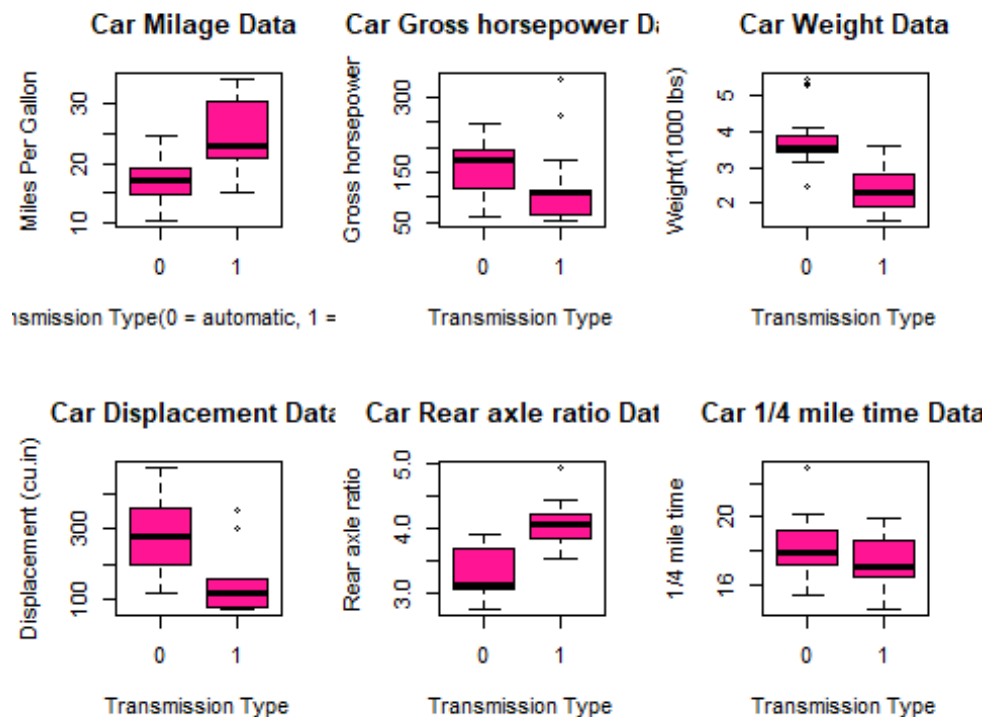
```
boxplot(hp~am,data=mtcars, main="Car Gross horsepower Data",
        xlab="Transmission Type", ylab="Gross horsepower", col = "deeppink")
```

Boxplot of Rear axle ratio by Car Engine Transmission (0 = automatic, 1 = manual)

```
boxplot(drat~am,data=mtcars, main="Car Rear axle ratio Data",
        xlab="Transmission Type", ylab="Rear axle ratio", col = "deeppink")
```

```
# Boxplot of Weight by Car Engine Transmission (0 = automatic, 1 = manual)
boxplot(wt~am,data=mtcars, main="Car Weight Data",
        xlab="Transmission Type", ylab="Weight(1000 lbs)", col = "deeppink")

# Boxplot of qsec by Car Engine Transmission (0 = automatic, 1 = manual)
boxplot(qsec~am,data=mtcars, main="Car 1/4 mile time Data",
        xlab="Transmission Type", ylab="1/4 mile time", col = "deeppink")
```



```
# plot for gear data
par(mfcol=c(2,3))
# Boxplot of MPG by Car Engine Number of forward gears
boxplot(mpg~gear,data=mtcars, main="Car Milage Data",
        xlab="Number of gears", ylab="Miles Per Gallon", col = "burlywood1")

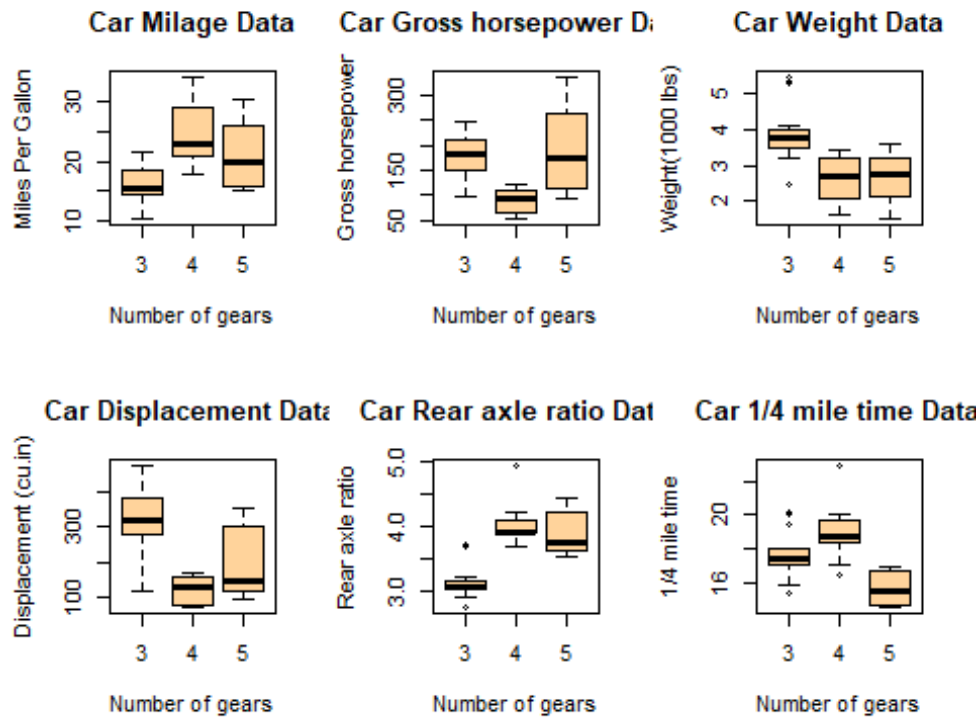
# Boxplot of Displacement by Car Engine Number of forward gears
boxplot(displ~gear,data=mtcars, main="Car Displacement Data",
        xlab="Number of gears", ylab="Displacement (cu.in)", col = "burlywood1")

# Boxplot of Gross horsepower by Car Engine Number of forward gears
boxplot(hp~gear,data=mtcars, main="Car Gross horsepower Data",
        xlab="Number of gears", ylab="Gross horsepower", col = "burlywood1")

# Boxplot of Rear axle ratio by Car Engine Number of forward gears
boxplot(drat~gear,data=mtcars, main="Car Rear axle ratio Data",
        xlab="Number of gears", ylab="Rear axle ratio", col = "burlywood1")
```

```
# Boxplot of Weight by Car Engine Number of forward gears
boxplot(wt~gear,data=mtcars, main="Car Weight Data",
        xlab="Number of gears", ylab="Weight(1000 lbs)", col = "burlywood1")

# Boxplot of qsec by Car Engine Number of forward gears
boxplot(qsec~gear,data=mtcars, main="Car 1/4 mile time Data",
        xlab="Number of gears", ylab="1/4 mile time", col = "burlywood1")
```



```
#plot for carburetors
par(mfcol=c(2,3))
# Boxplot of MPG by Car Engine Number of carburetors
boxplot(mpg~carb,data=mtcars, main="Car Milage Data",
        xlab="Number of carburetors", ylab="Miles Per Gallon", col = "bisque2")

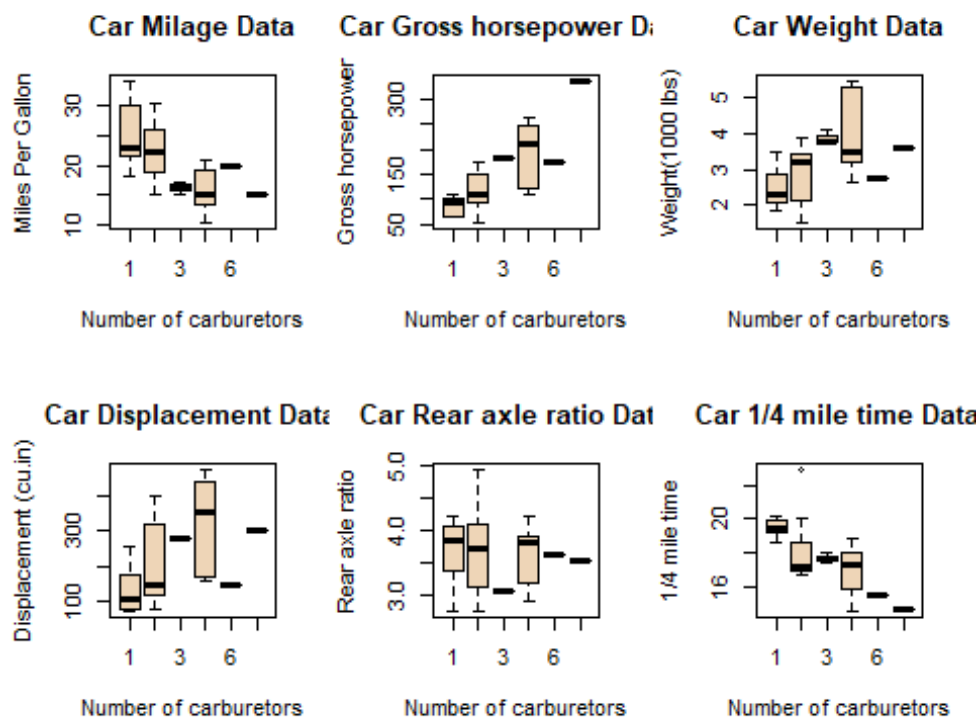
# Boxplot of Displacement by Car Engine Number of carburetors
boxplot(displ~carb,data=mtcars, main="Car Displacement Data",
        xlab="Number of carburetors", ylab="Displacement (cu.in)", col = "bisque2")

# Boxplot of Gross horsepower by Car Engine Number of carburetors
boxplot(hp~carb,data=mtcars, main="Car Gross horsepower Data",
        xlab="Number of carburetors", ylab="Gross horsepower", col = "bisque2")
```

```
# Boxplot of Rear axle ratio by Car Engine Number of carburetors
boxplot(drat~carb,data=mtcars, main="Car Rear axle ratio Data",
        xlab="Number of carburetors", ylab="Rear axle ratio", col = "bisque2"
)

# Boxplot of Weight by Car Engine Number of carburetors
boxplot(wt~carb,data=mtcars, main="Car Weight Data",
        xlab="Number of carburetors", ylab="Weight(1000 lbs)", col = "bisque2"
)

# Boxplot of qsec by Car Engine Number of carburetors
boxplot(qsec~carb,data=mtcars, main="Car 1/4 mile time Data",
        xlab="Number of carburetors", ylab="1/4 mile time", col = "bisque2")
```



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

R Markdown

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