Assignment - 1

Avinash Ravipudi

2022-09-23

#Installed and calling the ISLR packages

```
#install.packages("ISLR")
#library(ISLR)
```

#Importing carseats Dataset to R programming

```
options(stringsAsFactors = FALSE)
carseats <- read.csv("~/Desktop/Assignment -1 BA/carseats.csv")
head(carseats,10)
```

```
##    Sales CompPrice Income Advertising Population Price ShelveLoc Age Education
## 1   9.50       138     73          11        276   120       Bad  42        17
## 2  11.22       111     48          16        260    83      Good  65        10
## 3  10.06       113     35          10        269    80    Medium  59        12
## 4   7.40       117    100           4        466    97    Medium  55        14
## 5   4.15       141     64           3        340   128       Bad  38        13
## 6  10.81       124    113          13        501    72       Bad  78        16
## 7   6.63       115    105           0         45   108    Medium  71        15
## 8  11.85       136     81          15        425   120      Good  67        10
## 9   6.54       132    110           0        108   124    Medium  76        10
## 10  4.69       132    113           0        131   124    Medium  76        17
##    Urban  US
## 1    Yes Yes
## 2    Yes Yes
## 3    Yes Yes
## 4    Yes Yes
## 5    Yes  No
## 6     No Yes
## 7    Yes  No
## 8    Yes Yes
## 9     No  No
## 10    No Yes
```

#calling ISLR LIbrary and printing summary of carseats data set

```
library(ISLR)
summary(carseats)
```

```
##      Sales          CompPrice       Income        Advertising
##  Min.   : 0.000   Min.   : 77   Min.   : 21.00   Min.   : 0.000
##  1st Qu.: 5.390   1st Qu.:115   1st Qu.: 42.75   1st Qu.: 0.000
##  Median : 7.490   Median :125   Median : 69.00   Median : 5.000
##  Mean   : 7.496   Mean   :125   Mean   : 68.66   Mean   : 6.635
##  3rd Qu.: 9.320   3rd Qu.:135   3rd Qu.: 91.00   3rd Qu.:12.000
##  Max.   :16.270   Max.   :175   Max.   :120.00   Max.   :29.000
##    Population        Price        ShelveLoc              Age
##  Min.   : 10.0   Min.   : 24.0   Length:400         Min.   :25.00
##  1st Qu.:139.0   1st Qu.:100.0   Class :character   1st Qu.:39.75
```

```
##  Median :272.0   Median :117.0   Mode  :character   Median :54.50
##  Mean   :264.8   Mean   :115.8                      Mean   :53.32
##  3rd Qu.:398.5   3rd Qu.:131.0                      3rd Qu.:66.00
##  Max.   :509.0   Max.   :191.0                      Max.   :80.00
##    Education       Urban               US
##  Min.   :10.0   Length:400         Length:400
##  1st Qu.:12.0   Class :character   Class :character
##  Median :14.0   Mode  :character   Mode  :character
##  Mean   :13.9
##  3rd Qu.:16.0
##  Max.   :18.0
```

#Observations (Rows) contains in this dataset

```
nrow(carseats)
```

```
## [1] 400
```

#maximum value of the advertising attribute

```
lm.fit=lm(Sales~Advertising+Price,data=carseats)
max(carseats$Advertising)
```

```
## [1] 29
```

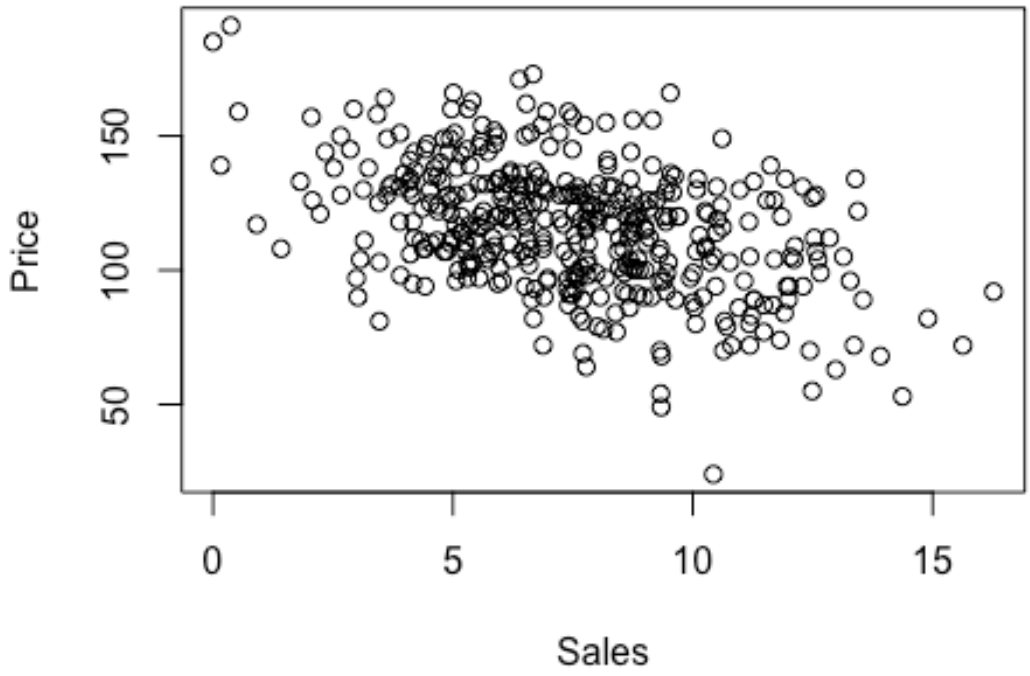
#IQR for Price attribute.

```
IQR(carseats$Price)
```

```
## [1] 31
```

#plot aganist sales & Price

```
Sales<- carseats$Sales
Price<- carseats$Price
plot(Sales,Price)
```



#correlation of the two attributes.

```
#install.packages("ggpubr")
library("ggpubr")
```

```
## Loading required package: ggplot2
```

```
print(cor(carseats$Sales,carseats$Price))
```

```
## [1] -0.4449507
```

```
#In an inverse relationship (a negative correlation), one variable increases while the other decreases.
```