Business Analytics Assignment-1

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```
knitr::opts_chunk$set(echo = TRUE, comment = NULL)
```

#Installed the ISLR library using the install.packages() command and now ensuring if the library is correctly installed.

```
tinytex::install_tinytex(force = TRUE)
library(ISLR)
library(tinytex)
View(Carseats)
```

#Printing the summary of the Carseats dataset.

```
print(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          Education
 Min.   : 10.0   Min.   : 24.0   Bad   : 96   Min.   :25.00   Min.   :10.0
 1st Qu.:139.0   1st Qu.:100.0   Good  : 85   1st Qu.:39.75   1st Qu.:12.0
 Median :272.0   Median :117.0   Medium:219   Median :54.50   Median :14.0
 Mean   :264.8   Mean   :115.8                Mean   :53.32   Mean   :13.9
 3rd Qu.:398.5   3rd Qu.:131.0                3rd Qu.:66.00   3rd Qu.:16.0
 Max.   :509.0   Max.   :191.0                Max.   :80.00   Max.   :18.0
 Urban       US
 No :118   No :142
 Yes:282   Yes:258
```

#Number of Observation(rows) present in the dataset.

```
nrow(Carseats)
```

```
[1] 400
```

#Maximum value of the advertising attribute.

```
max(Carseats$Advertising)
```

```
[1] 29
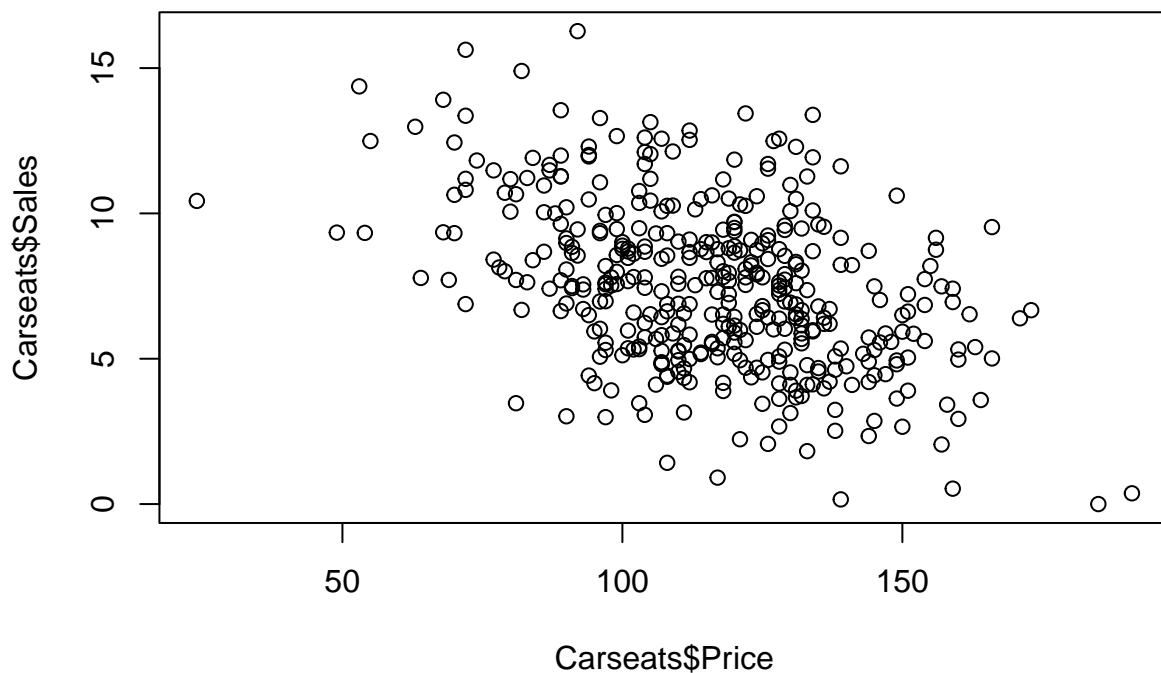```

#Calculating the IQR of the Price attribute.

```
print(paste("Price IQR is", IQR(Carseats$Price)))
```

```
[1] "Price IQR is 31"
```

#Plotting the Sales variable aganist the Price variable.

```
plot(Carseats$Price,Carseats$Sales)
```


It is difficult to detect any strong relationship between Price and Sales just by looking at the scatter plot. Hence, in the further step we will calculate the correlation to understand the relationship between these two variables.

#Calculating the correlation between Price and Sales attributes.

```
cor(Carseats$Price,Carseats$Sales)
```

[1] -0.4449507

A correlation coefficient of -0.4449507 suggests a mild negative correlation between price and sales attributes.This means that if Price increases, Sales will tend to decrease.