BA-Assignment.1

#calling the ISLR package which has already been installed using install.packages(ISLR)  
library(ISLR)  
  
#printing the summarised version of carseats dataset  
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   
##   
##   
##   
##

#finding out the number of rows in the dataset  
nrow(Carseats)

## [1] 400

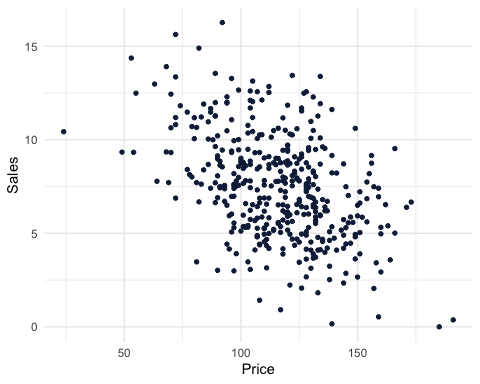
#calculating the maximum value of the advertising attribute  
max(Carseats$Advertising)

## [1] 29

#finding the inter-quartile range for the price attribute  
IQR(Carseats$Price)

## [1] 31

#plotting sales against price  
library(ggplot2)  
ggplot(Carseats)+  
 aes(  
 x = Price,  
 y = Sales  
 )+  
 geom\_point(shape="circle",size=1.2, colour="#112446")+  
 theme\_minimal()



#Observation: The two variables i.e. x=Price and y=sales have a negative association as they have a inverse relationship, As the price increases the sales decrease.  
  
#calculating the correlation between two attributes i.e. sales and price  
cor(Carseats$Sales,Carseats$Price)

## [1] -0.4449507

#Observation: The two attributes sales and price have a negative or inverse correlation as the correlation value between them is -0.4449507