Lab sheet -4

Exercise

Q1)

```
#Q1|
#Importing the data set
setwd("C:\\Users\\it24100463\\Desktop\\IT24100463")
branch_data <- read.table("Exercise.txt", header=TRUE,sep = ",")
```

Data Editor — □ ✕

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	Branch	Sales_X1	Advertising_X2	Years_X3	var5	var6	var7
1	1	3.4	120	4			
2	2	4.1	150	7			
3	3	2.8	90	3			
4	4	5	200	10			
5	5	3.7	110	5			
6	6	4.5	175	6			
7	7	3	95	2			
8	8	4.9	185	9			
9	9	3.2	105	4			
10	10	2.5	80	1			
11	11	3.9	130	5			
12	12	4.2	140	7			
13	13	2.7	100	3			
14	14	3.6	125	4			
15	15	4.8	190	8			
16	16	3.3	115	5			
17	17	4	135	6			
18	18	5.1	210	12			
19	19	3.8	145	6			

Q2)

```
#Q2
fix(branch_data)
str(branch_data)
attach(branch_data)
```

```
> #Q2
> fix(branch_data)
> str(branch_data)
'data.frame':   30 obs. of  4 variables:
 $ Branch        : num  1 2 3 4 5 6 7 8 9 10 ...
 $ Sales_X1      : num  3.4 4.1 2.8 5 3.7 4.5 3 4.9 3.2 2.5 ...
 $ Advertising_X2: num  120 150 90 200 110 175 95 185 105 80 ...
 $ Years_X3      : num  4 7 3 10 5 6 2 9 4 1 ...
```
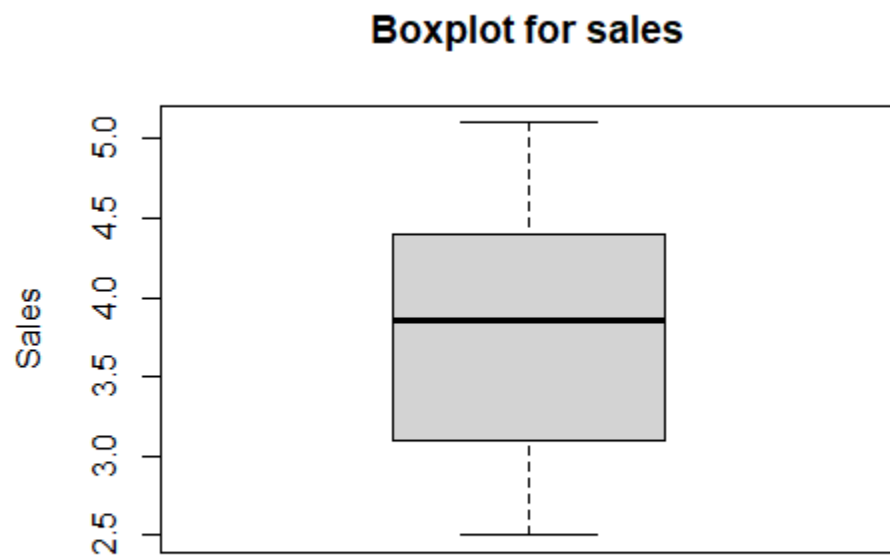
Q3)

```
#Q3
#Obtain boxplot for Sales_X1
boxplot(branch_data$Sales_X1,main = "Boxplot for sales", ylab ="Sales")
```

Boxplot for sales

Q4)

```
#Q4
#five-number summary
summary(Advertising_X2)
```

```
> summary(Advertising_X2)
   Min. 1st Qu.  Median   Mean 3rd Qu.   Max.
   80.0   101.2   132.5   134.8   158.8   210.0
```

```
#IQR
IQR(Advertising_X2)
```

```
> IQR(Advertising_X2)
[1] 57.5
```

Q5)

```
#Q5
get.outliers<-function(z){
  q1 <- quantile(z)[2]
  q3 <- quantile(z)[4]
  iqr <- q3 - q1
  ub <- q3 + 1.5*iqr
  lb <- q1 - 1.5*iqr
  print(paste("Upper bound = ", ub))
  print(paste("Lower bound = ",lb))
  print(paste("Outliers:",paste(sort(z[z<lb|z>ub]), collapse = ",")))
}
#Check for outliers in the 'years' variable
get.outliers(Years_X3)
```