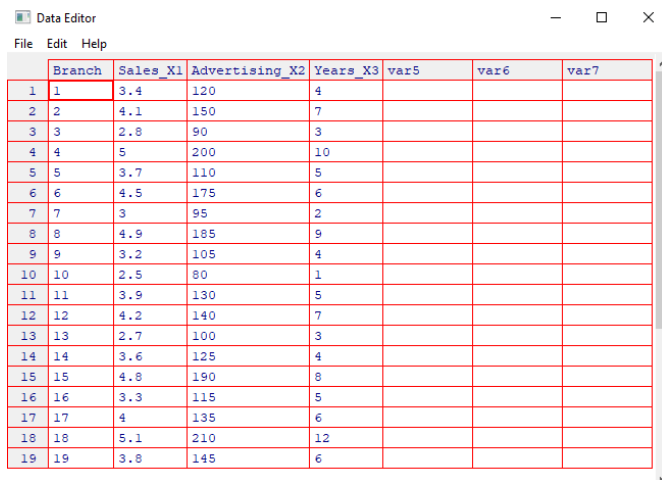Q1.

```
setwd("C:\\Users\\it24100263\\Desktop\\IT24100263")
#Q1
branch_data <- read.table("Exercise.txt", header = TRUE, sep = ",")
```

Q2.

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

Data Editor — □ ×

File Edit Help

	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			

```
> head(branch_data)
  Branch Sales_X1 Advertising_X2 Years_X3
1      1      3.4            120        4
2      2      4.1            150        7
3      3      2.8             90        3
4      4      5.0            200       10
5      5      3.7            110        5
6      6      4.5            175        6
```

```
> attach(branch_data)
The following objects are masked from branch_data (pos = 3):

    Advertising_X2, Branch, Sales_X1, Years_X3

The following objects are masked from branch_data (pos = 4):

    Advertising_X2, Branch, Sales_X1, Years_X3

The following objects are masked from branch_data (pos = 5):
```

Q3.

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


Boxplot of Sales
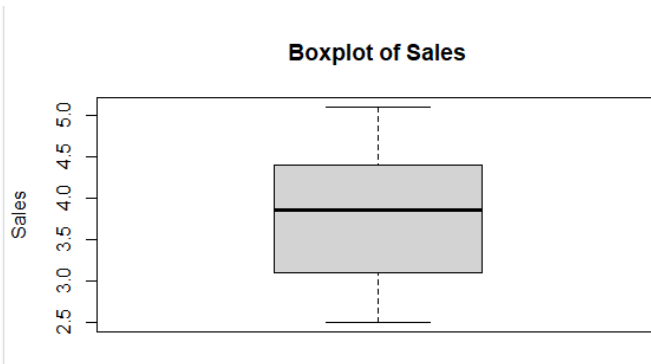
Q4.

```
#Q4 - Five-number summary
summary(Advertising_X2)
#IQR
IQR(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(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=", ub))
  print(paste("Outliers:", paste(sort(z[z>lb|z>ub]), collapse=",")))}
#Check for outliers in the 'years' variable
get_outliers(Years_X3)
```

```
> print(paste("Upper Bound=", ub))
[1] "Upper Bound= 14.5"
> print(paste("Lower Bound=", ub))
[1] "Lower Bound= 14.5"




> get_outliers(Years_X3)
[1] "Upper Bound= 14.5"
[1] "Lower Bound= 14.5"
[1] "Outliers: 1,1,2,2,2,3,3,3,4,4,4,5,5,5,5,6,6,6,6,7,7,7,8,8,9,9,10,10,11,12"
```