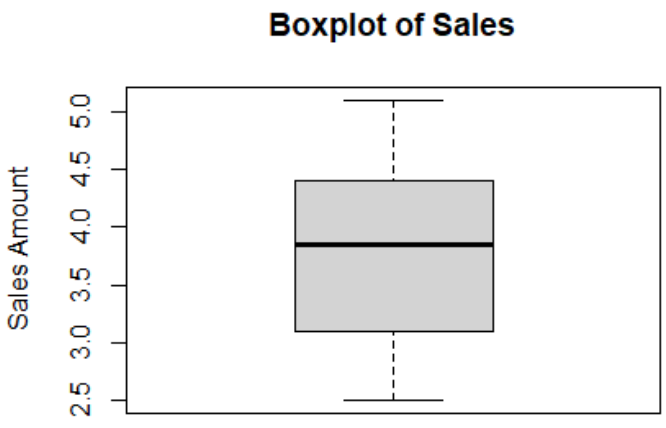
1.
```
> setwd("C:\\Users\\IT24100345\\Desktop\\lab4")
>
> branch_data <- read.csv("Exercise.txt", header = TRUE)
```

2.
```
> str(branch_data)
'data.frame':   30 obs. of  4 variables:
 $ Branch        : int  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: int  120 150 90 200 110 175 95 185 105 80 ...
 $ Years_X3      : int  4 7 3 10 5 6 2 9 4 1 ...
>
> fix(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	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

3.
```
>
> boxplot(branch_data$Sales_X1, main="Boxplot of Sales")
>
```



4.

```
> summary(branch_data$Advertising_X2)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   80.0   101.2   132.5   134.8   158.8   210.0
> IQR(branch_data$Advertising_X2)
[1] 57.5
```

5. The Outlier Factor was reduced from 1.5 to 0.5 to increase the sensitivity

```
> find_outliers <- function(x) {
+   Q1 <- quantile(x, 0.25)
+   Q3 <- quantile(x, 0.75)
+
+   iqr <- Q3 - Q1
+
+   lower_bound <- Q1 - 0.5 * iqr
+   upper_bound <- Q3 + 0.5 * iqr
+
+   outliers <- x[x < lower_bound | x > upper_bound]
+   return(outliers)
+ }
>
> outliers_years <- find_outliers(branch_data$Years_X3)
> outliers_years
[1] 12 11
```