Lab sheet 04

Question 1:

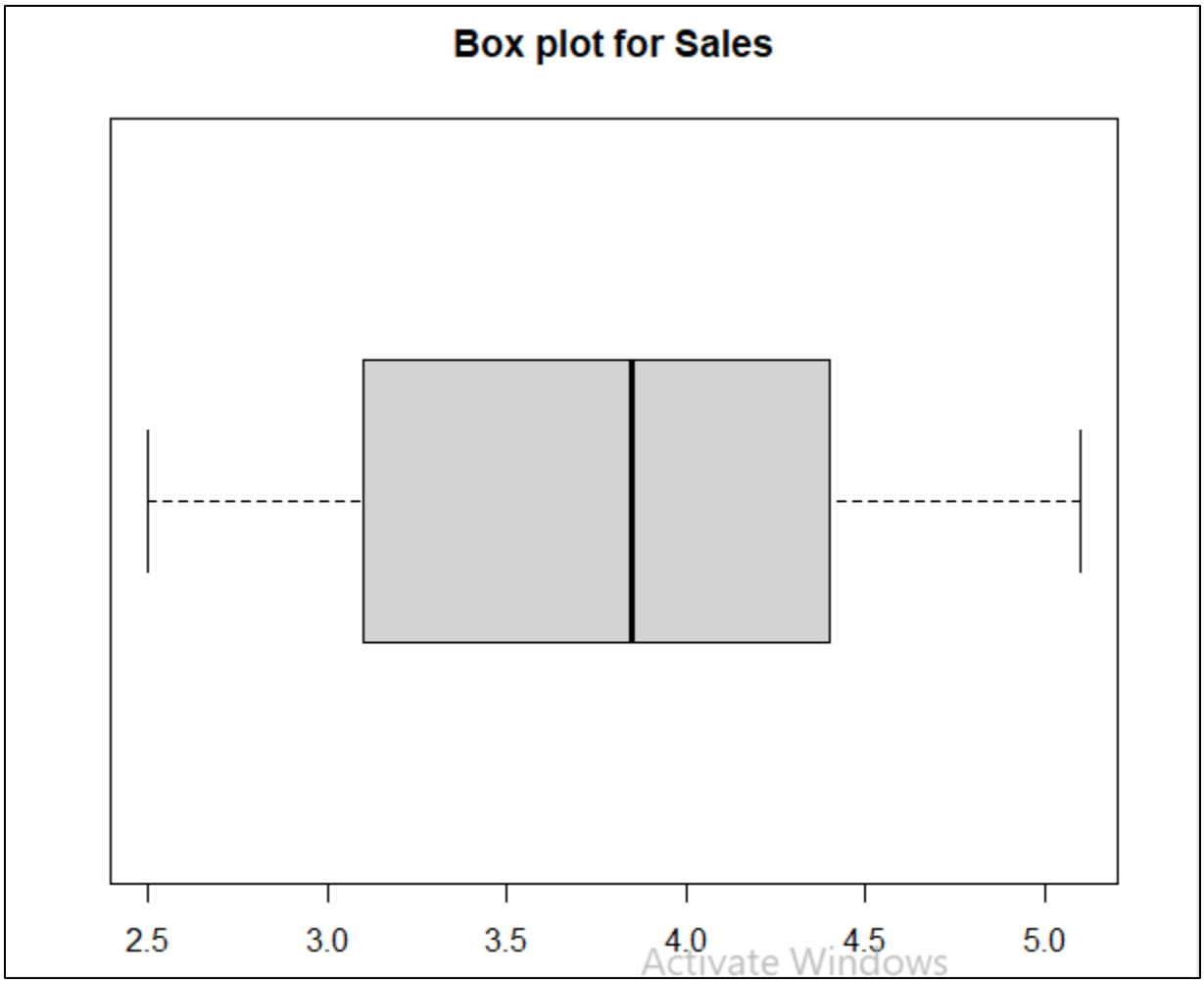
```
> setwd("C:\\Users\\it24104034\\Desktop\\IT24104034")
>
> branch_data <- read.table("Exercise.txt", header = TRUE, sep = ",")
> fix(branch_data)
```

Question 2:

```
> 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 ...
>
> mean(Branch)
[1] 15.5
> mean(Sales_X1)
[1] 3.79
> mean(Advertising_X2)
[1] 134.8333
> mean(Years_X3)
[1] 5.7
```

Question 3:

```
> boxplot(Sales_X1, main = "Box plot for Sales", outline = TRUE,
+         outpch = 8, horizontal = TRUE)
>
```



Question 4:

```
> summary(Advertising_X2)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   80.0   101.2   132.5   134.8   158.8   210.0
> Minimum <- min(Advertising_X2, na.rm = TRUE)
> Minimum
[1] 80
>
> Maximum <- max(Advertising_X2, na.rm = TRUE)
> Maximum
[1] 210
>
> Q1 <- quantile(Advertising_X2)[2]
> Q1
   25%
101.25
>
> Q2 <- quantile(Advertising_X2)[3]
> Q2
  50%
132.5
>
> Q3 <- quantile(Advertising_X2)[4]
> Q3
   75%
158.75
>
> IQR <- Q3 - Q1
> IQR
 75%
57.5
>
```

Question 5:

```
> finding_outliers = function(outlier){
+   Q1 <- quantile(outlier)[2]
+   Q3 <- quantile(outlier)[4]
+   IQR <- Q3 - Q1
+   print(IQR)
+   lb <- Q1 - 1.5*IQR
+   print(lb)
+   ub <- Q3 + 1.5*IQR
+   print(ub)
+
+   outlier <- paste(outlier[outlier<lb | outlier>ub], collapse = ",")
+   return(outlier)
+ }
> finding_outliers(Years_X3)
75%
4.5
 25%
-3.5
 75%
14.5
[1] ""
```