Faculty of Computing

Year 2 Semester 1 (2025)

IT2120 - Probability and Statistics

Lab Sheet 04

Q1

IT24103878.R*

Source on Save | Run | Source

```
1  setwd('C:\\Users\\it24103878\\Desktop\\IT24103878')
2  #Q 1.
3  branch_data <- read.table("Exercise.txt", header = TRUE, sep = ",")
4  print("Dataset Imported Successfully")
5  print(head(branch_data))
6
```

```
> setwd('C:\\Users\\it24103878\\Desktop\\IT24103878')
> branch_data <- read.table("Exercise.txt", header = TRUE, sep = ",")
> print("Dataset Imported Successfully")
[1] "Dataset Imported Successfully"
> print(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
>
```

Q2

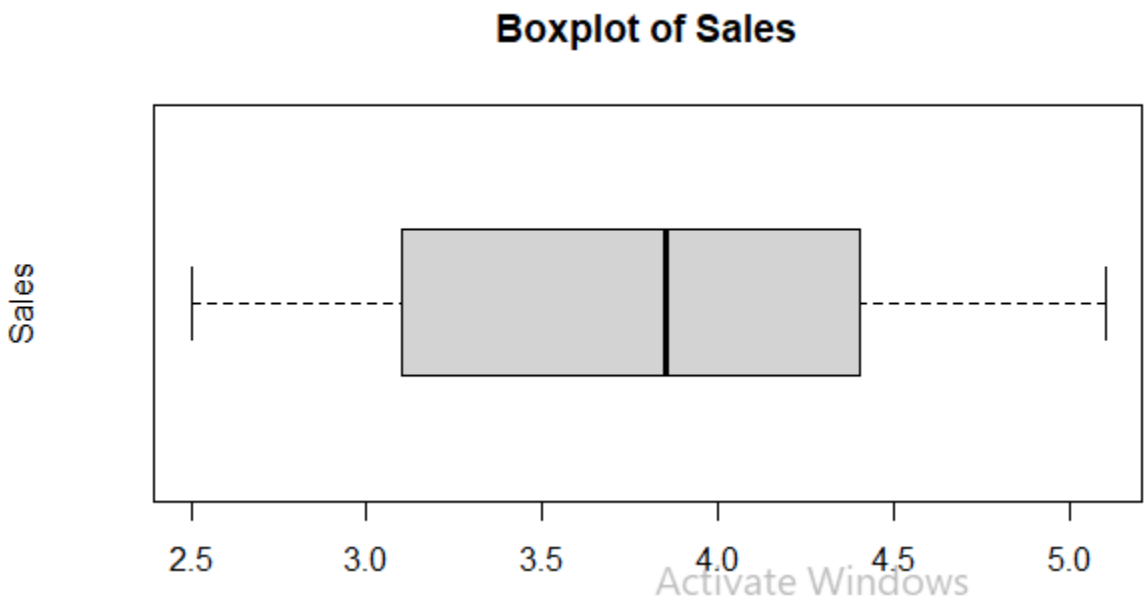
```
7  #Q2.
8  str(branch_data)
```

```
> 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 ...
>
```

Q3

```
12  # Q3
13  boxplot(branch_data$Sales_X1, main = "Boxplot of Sales", ylab = "Sales",
14          outline = TRUE, outpch = 8, horizontal = TRUE)
15
```

```
> boxplot(branch_data$Sales_X1, main = "Boxplot of Sales", ylab = "Sales",
+         outline = TRUE, outpch = 8, horizontal = TRUE)
>
```

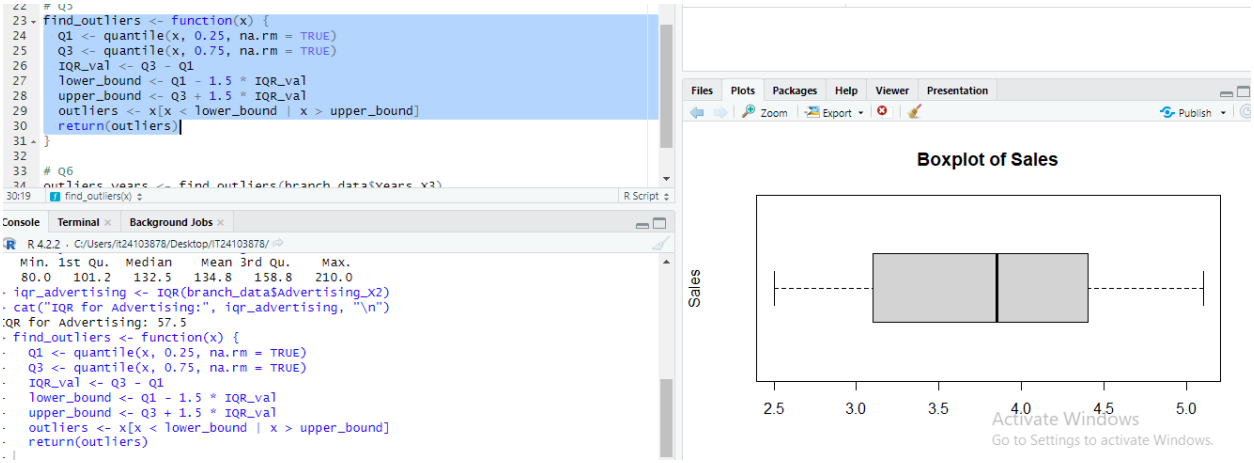


Q4

```
17  # Q4.
18  summary(branch_data$Advertising_X2)
19  iqr_advertising <- IQR(branch_data$Advertising_X2)
20  cat("IQR for Advertising:", iqr_advertising, "\n")
21
```

```
> summary(branch_data$Advertising_X2)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   80.0   101.2   132.5   134.8   158.8   210.0
> iqr_advertising <- IQR(branch_data$Advertising_X2)
> cat("IQR for Advertising:", iqr_advertising, "\n")
IQR for Advertising: 57.5
>
```

Q5



Q6