Probability and Statistics – IT2120

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```
 1  setwd("C:\\Users\\it24102008\\Desktop\\Lab 04")
 2
 3  branch_data <- read.table("Exercise.txt", header=TRUE, sep=" ")
 4
 5  str(branch_data)
 6  summary(branch_data)
 7  boxplot(branch_data$Sales_X1,main="Boxplot For Sales",ylab = "sales")
 8
 9  fivenum(branch_data$Advertising_X2)
10  IQR(branch_data$Advertising_X2)
11
12 ▾ find_outliers <- function(x){
13    Q1 <- quantile(x, 0,25)
14    Q2 <- quantile(x, 0,75)
15    IQR_value <- Q3 - Q1
16    lower_bound <- Q1 - 1.5 * IQR_value
17    lower_bound <- Q3 + 1.5 * IQR_value
18    outliers <= X[X < lower_bound | x> upper_bound]
19    return(outliers)
20 ▴ }
21
22  outlier_years <- find_outliers (branch_data$Years_X3)
23  outlier_years
```

```
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```

```
> branch_data <- read.table("Exercise.txt", header=TRUE,sep=",")
> 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 ...
> summary(branch_data)
     Branch          Sales_X1        Advertising_X2      Years_X3
 Min.   : 1.00    Min.   :2.500    Min.   : 80.0    Min.   : 1.00
 1st Qu.: 8.25    1st Qu.:3.125    1st Qu.:101.2    1st Qu.: 3.25
 Median :15.50    Median :3.850    Median :132.5    Median : 5.50
 Mean   :15.50    Mean   :3.790    Mean   :134.8    Mean   : 5.70
 3rd Qu.:22.75    3rd Qu.:4.375    3rd Qu.:158.8    3rd Qu.: 7.75
 Max.   :30.00    Max.   :5.100    Max.   :210.0    Max.   :12.00
> boxplot(branch_data$Sales_X1,main="Boxplot for sales",ylab=" sales")
> fivenum(branch_data$Advertising_X2)
[1]  80.0 100.0 132.5 160.0 210.0
> IQR(branch_data$Advertising_X2)
[1] 57.5
```


Boxplot for sales