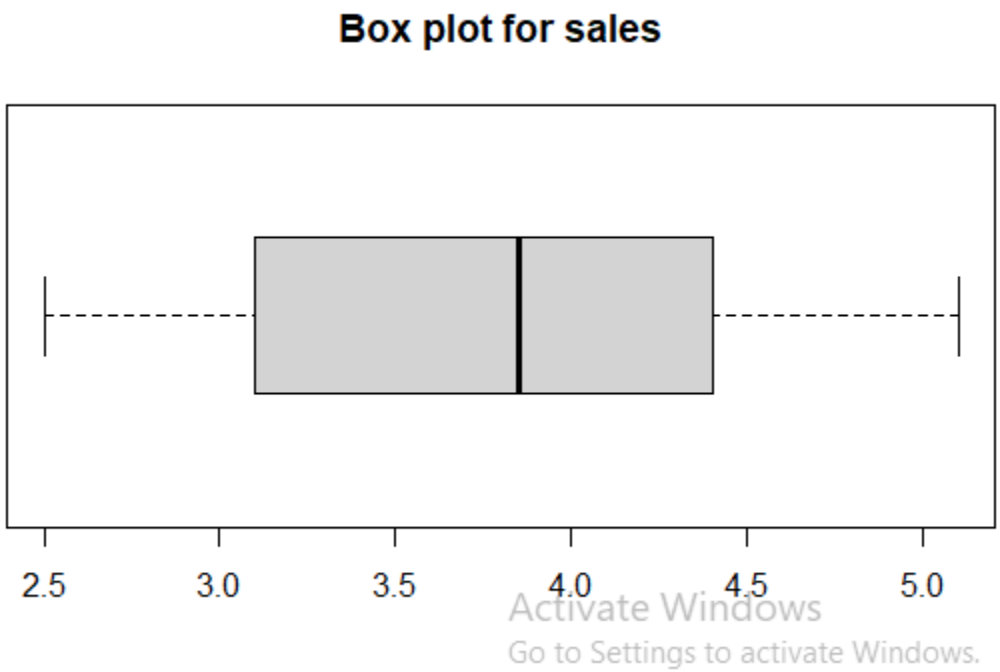
IT24101116

PS lab 04

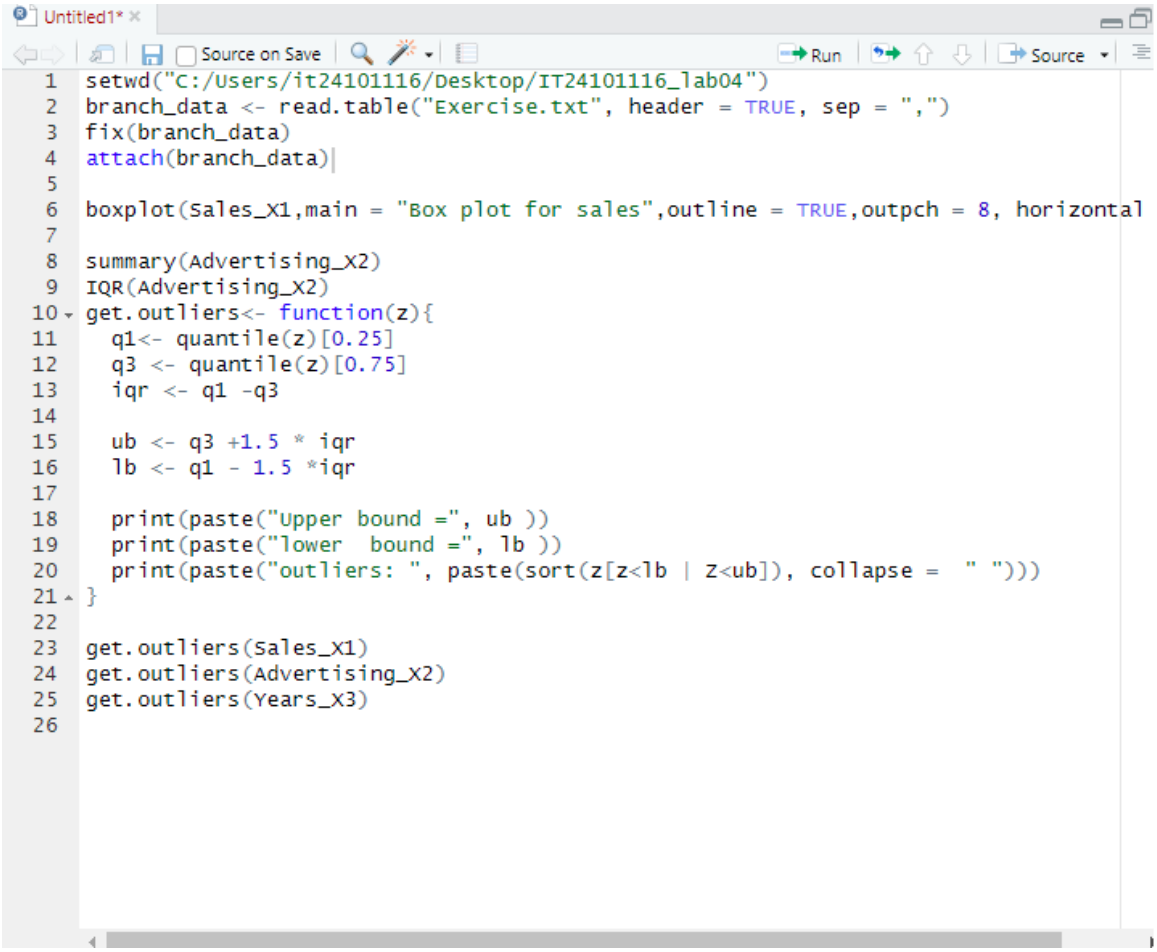
3.Obtain boxplot for sales and interpret the shape of the sales distribution.



The box plot for sales data reveals a relatively tight distribution, with the majority of sales values falling between 3.0 and 4.5. The median, located at 4.0, suggests that the central tendency of sales is slightly above the lower quartile, indicating a slight positive skew in the data. There are no apparent outliers, and the range of values spans from 2.5 to 5.0, indicating a fairly consistent spread of sales numbers. Overall, the data appears to be fairly balanced, with a small tendency toward higher sales values.

4. . Calculate the five number summary and IQR for advertising variable.

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



Untitled1*

Source on Save | Run | Source

```
1  setwd("C:/Users/it24101116/Desktop/IT24101116_lab04")
2  branch_data <- read.table("Exercise.txt", header = TRUE, sep = ",")
3  fix(branch_data)
4  attach(branch_data)
5
6  boxplot(Sales_X1,main = "Box plot for sales",outline = TRUE,outpch = 8, horizontal
7
8  summary(Advertising_X2)
9  IQR(Advertising_X2)
10 get.outliers<- function(z){
11   q1<- quantile(z)[0.25]
12   q3 <- quantile(z)[0.75]
13   iqr <- q1 -q3
14
15   ub <- q3 +1.5 * iqr
16   lb <- q1 - 1.5 *iqr
17
18   print(paste("Upper bound =", ub ))
19   print(paste("lower  bound =", lb ))
20   print(paste("outliers: ", paste(sort(z[z<lb | z<ub]), collapse =  " ")))
21 }
22
23 get.outliers(Sales_X1)
24 get.outliers(Advertising_X2)
25 get.outliers(Years_X3)
26
```