

## LAB 04

IT24100418

```
IT24100418Lab04.R* x
Source on Save
1 setwd("c:/Users/IT24100418/Desktop/Lab 04-20250821")
2 branch_data <- read.csv("Exercise.txt", header = TRUE)
3 head(branch_data)
4
5 str(branch_data)
6
7 boxplot(branch_data$Sales_X1, main = "Boxplot of sales", ylab = "sales")
8
9 str(branch_data$Branch.Sales_X1)
10 summary(branch_data$Branch.Sales_X1)
11 sum(is.na(branch_data$Branch.Sales_X1))
12 head(branch_data$Branch.Sales_X1)
13
14
15 five_num <- fivenum(branch_data$Advertising_X2)
16 five_num
17
18 iqr_advertising <- IQR(branch_data$Advertising_X2)
19 iqr_advertising
20
21
22 find_outliers <- function(x) {
23   Q1 <- quantile(x, 0.25)
24   Q3 <- quantile(x, 0.75)
25   IQR <- Q3 - Q1
26   lower_bound <- Q1 - 1.5 * IQR
27   upper_bound <- Q3 + 1.5 * IQR
28   outliers <- x[x < lower_bound | x > upper_bound]
29   return(outliers)
30 }
31
32 outliers_years <- find_outliers(branch_data$Years_X3)
33 outliers_years
```

```

> setwd("C:/Users/IT24100418/Desktop/Lab 04-20250821")
> branch_data <- read.csv("Exercise.txt", header = TRUE)
> 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
> 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 ...
> boxplot(branch_data$Sales_X1, main = "Boxplot of Sales", ylab = "sales")
> str(branch_data$Branch.Sales_X1)
NULL
> summary(branch_data$Branch.Sales_X1)
Length Class Mode
 0     NULL  NULL
> sum(is.na(branch_data$Branch.Sales_X1))
[1] 0
> head(branch_data$Branch.Sales_X1)
NULL
> five_num <- fivenum(branch_data$Advertising_X2)
> five_num
[1] 80.0 100.0 132.5 160.0 210.0
> iqr_advertising <- IQR(branch_data$Advertising_X2)
> iqr_advertising
[1] 57.5
> find_outliers <- function(x) {
+   Q1 <- quantile(x, 0.25)
+   Q3 <- quantile(x, 0.75)
+   IQR <- Q3 - Q1
+   lower_bound <- Q1 - 1.5 * IQR
+   upper_bound <- Q3 + 1.5 * IQR
+   outliers <- x[x < lower_bound | x > upper_bound]
+   return(outliers)
+ }
> outliers_years <- find_outliers(branch_data$Years_X3)
> outliers_years
integer(0)

```

