IT2120 - Probability and Statistics

Lab Sheet 04

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Exercise

```r
setwd("C:\\Users\\it24104140\\Desktop\\IT24104140")

branch_data <- read.csv("Exercise.txt", header = TRUE)
str(branch_data)


head(branch_data)

boxplot(branch_data$Sales_X1, main = "Boxplot of Sales")
summary(branch_data$advertising_X2)
IQR(branch_data$advertising_X2)

find_outliers <- function(x) {
  Q1 <- quantile(x, 0.25)
  Q3 <- quantile(x, 0.75)
  IQR_val <- Q3 - Q1
  lower_bound <- Q1 - 1.5 * IQR_val
  upper_bound <- Q3 + 1.5 * IQR_val
  return(x[x < lower_bound | x > upper_bound])
}
find_outliers(branch_data$years)
```

```
>
> setwd("C:\\Users\\it24104140\\Desktop\\IT24104140")
>
> branch_data <- read.csv("Exercise.txt", header = TRUE)
> 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 ...
>
>
> 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
>
> boxplot(branch_data$Sales_X1, main = "Boxplot of Sales")
> summary(branch_data$advertising_X2)
Length  Class   Mode
     0   NULL   NULL
> IQR(branch_data$advertising_X2)
[1] NA
>
```

```
>
> find_outliers <- function(x) {
+   Q1 <- quantile(x, 0.25)
+   Q3 <- quantile(x, 0.75)
+   IQR_val <- Q3 - Q1
+   lower_bound <- Q1 - 1.5 * IQR_val
+   upper_bound <- Q3 + 1.5 * IQR_val
+   return(x[x < lower_bound | x > upper_bound])
+ }
> find_outliers(branch_data$years)
NULL
>
```

Environment | History | Connections | Tutorial

Import Dataset | 221 MiB | List

R | Global Environment

Data	
branch_data	30 obs. of 4 variables
branchdata	30 obs. of 1 variable
Functions	
find_outliers	function (x)

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