Sri Lanka Institute of Information Technology

Lab Submission
Lab sheet No 5

IT24101551

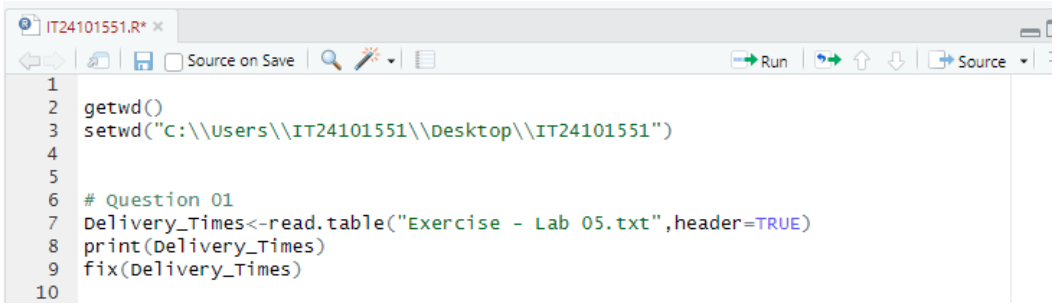
Kuyilini. T

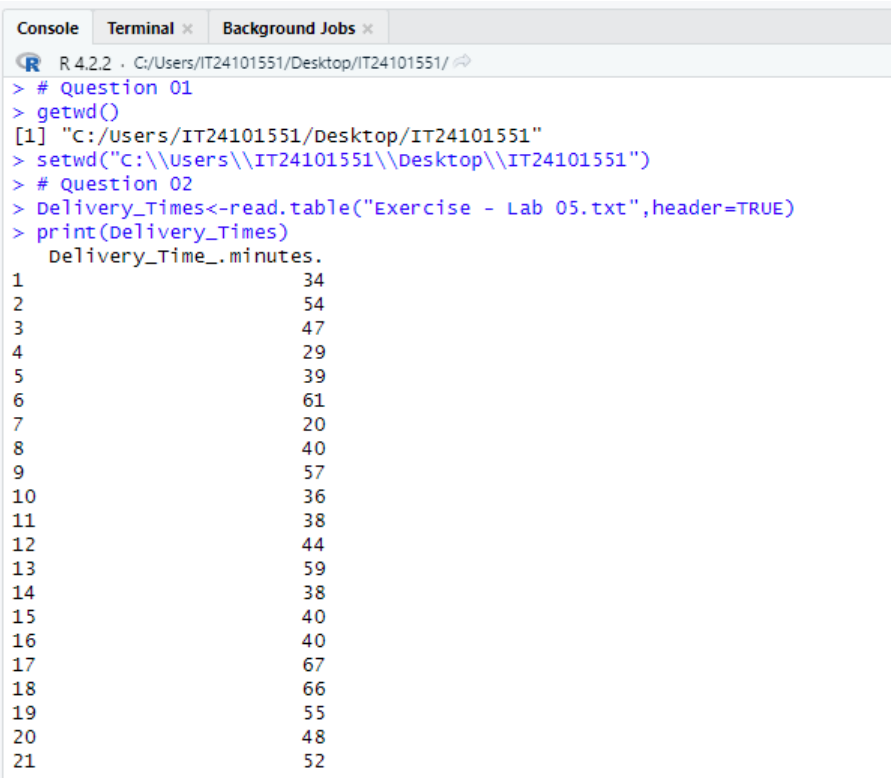
IT2120 - Probability and Statistics

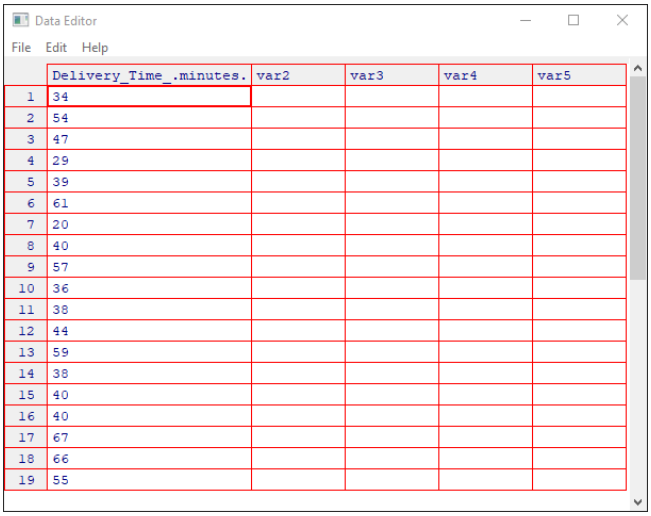
B.Sc. (Hons) in Information Technology

Exercise

1. Import the dataset (’Exercise – Lab 05.txt’) into R and store it in a data frame called ”Delivery Times”.





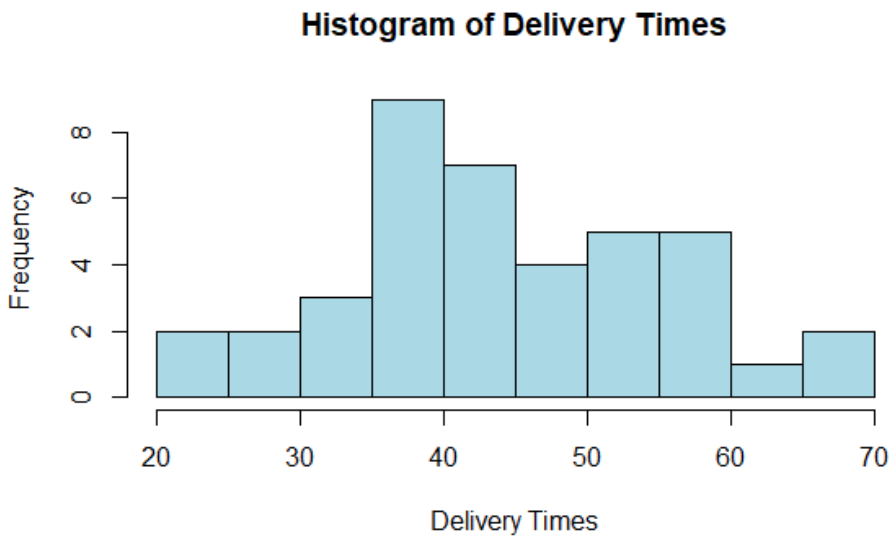


2. Draw a histogram for deliver times using nine class intervals where the lower limit is 20 and upper limit is 70. Use right open intervals.

IT24101551.R* ×

Source on Save | Run

```
10
11  # Question 02
12  hist(Delivery_Times$Delivery,
13       breaks = seq(20, 70, by = 5),
14       right = FALSE,
15       main = "Histogram of Delivery Times",
16       xlab = "Delivery Times",
17       ylab = "Frequency",
18       col = "lightblue",
19       border = "black")
20
21
22  hist_data <- hist(Delivery_Times$Delivery,
23                    breaks = seq(20, 70, by = 5),
24                    right = FALSE,
25                    plot = FALSE)
```



3. Comment on the shape of the distribution.

```
27  # Question 03
28  # The distribution appears to be slightly right-skewed with a peak around 35-40 minutes.
29
30:1  (Top Level)
```

```
Console  Terminal  Background Jobs
R 4.2.2 · C:/Users/IT24101551/Desktop/IT24101551/
> # Question 03
> # The distribution appears to be slightly right-skewed with a peak around 35-40 minutes.
>
```

4. Draw a cumulative frequency polygon (ogive) for the data in a separate plot.

```
31  # Question 04
32  cumulative_freq <- cumsum(hist_data$counts)
33
34
35  plot(hist_data$mids, cumulative_freq,
36       type = "o",
37       main = "Cumulative Frequency Polygon (Ogive)",
38       xlab = "Delivery Times",
39       ylab = "Cumulative Frequency",
40       pch = 16,
41       col = "blue")
42
43
42:1  (Top Level)
```

```
Console  Terminal  Background Jobs
R 4.2.2 · C:/Users/IT24101551/Desktop/IT24101551/
> # Question 04
> cumulative_freq <- cumsum(hist_data$counts)
> plot(hist_data$mids, cumulative_freq,
+      type = "o",
+      main = "Cumulative Frequency Polygon (Ogive)",
+      xlab = "Delivery Times",
+      ylab = "Cumulative Frequency",
+      pch = 16,
+      col = "blue")
>
```