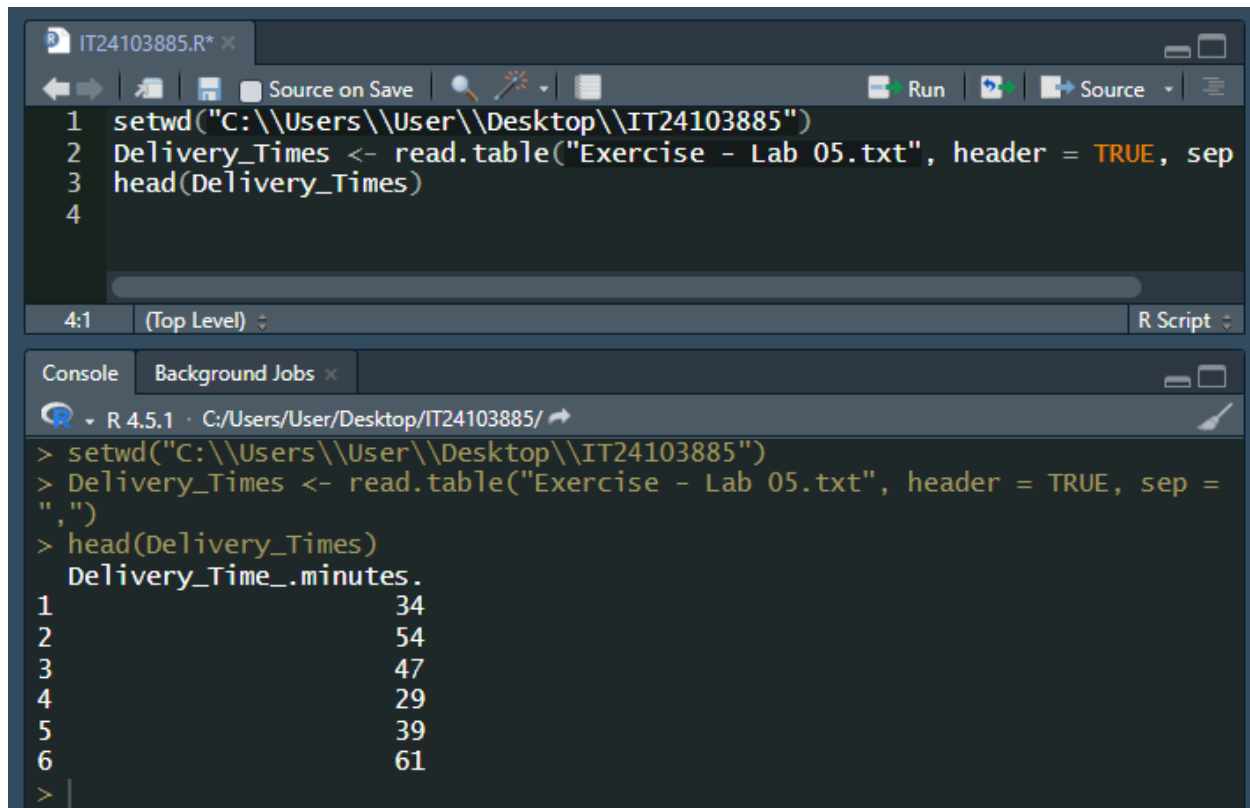


## IT2120 - Lab Sheet 05

### IT24103885 - Senarathna Y.M.C.S

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



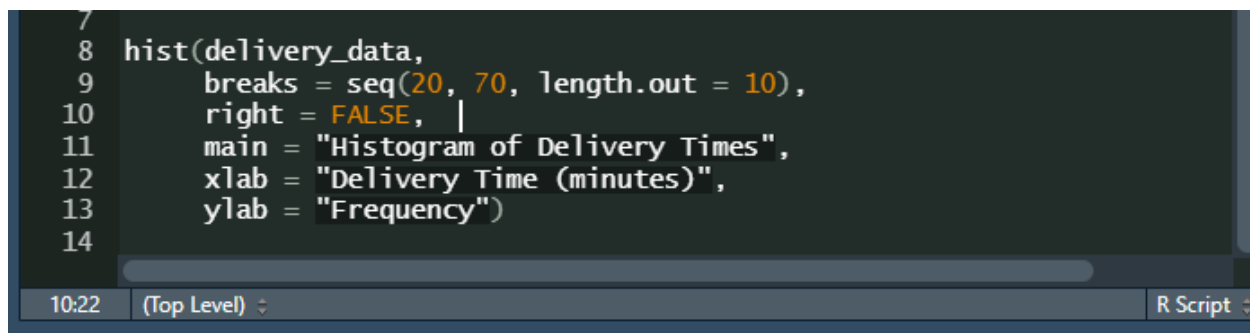
The screenshot shows the R Studio interface. The script editor contains the following code:

```
1 setwd("C:\\Users\\User\\Desktop\\IT24103885")
2 Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep
3 head(Delivery_Times)
4
```

The console shows the output of the code:

```
> setwd("C:\\Users\\User\\Desktop\\IT24103885")
> Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep =
",")
> head(Delivery_Times)
  Delivery_Time_.minutes.
1                      34
2                      54
3                      47
4                      29
5                      39
6                      61
>
```

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.

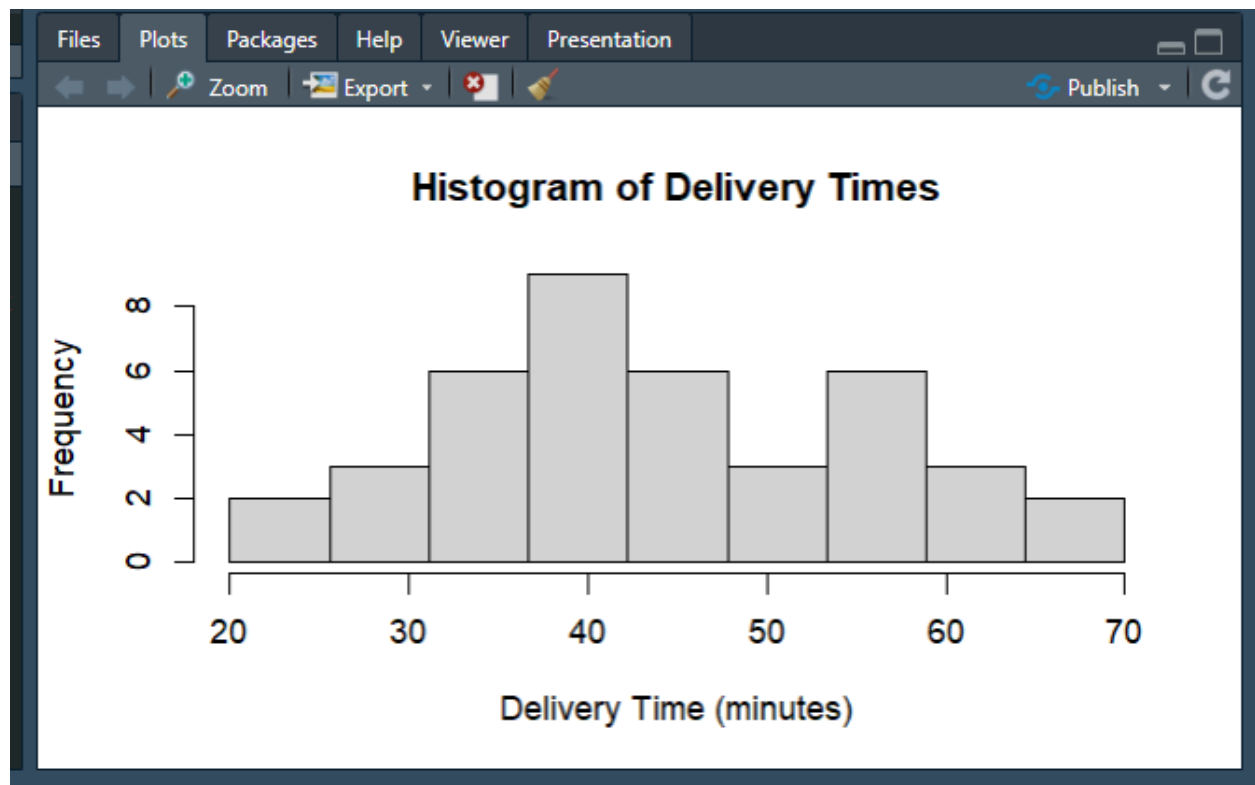


The screenshot shows the R Studio interface. The script editor contains the following code:

```
7
8 hist(delivery_data,
9     breaks = seq(20, 70, length.out = 10),
10    right = FALSE, |
11    main = "Histogram of Delivery Times",
12    xlab = "Delivery Time (minutes)",
13    ylab = "Frequency")
14
```

The console shows the output of the code:

```
10:22 (Top Level) R Script
```



3. Comment on the shape of the distribution.

```
15
16 mean(delivery_data)
17 median(delivery_data)
18
```

17:22 (Top Level) R Script

Console Background Jobs x

R 4.5.1 · C:/Users/User/Desktop/IT24103885/

```
> mean(delivery_data)
[1] 43.75
> median(delivery_data)
[1] 42.5
> |
```

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

```
20 h <- hist(delivery_data,
21           breaks = seq(20, 70, length.out = 10),
22           right = FALSE,
23           plot = FALSE)
24
25 cumfreq <- cumsum(h$counts)
26 plot(h$breaks[-1], cumfreq,
27      type = "o",
28      main = "Cumulative Frequency Polygon (Ogive)",
29      xlab = "Delivery Time (minutes)",
30      ylab = "Cumulative Frequency")
31
32 |
33 data.frame(
34   Class_Interval = paste(h$breaks[-10], h$breaks[-1], sep = "-"),
35   Frequency = h$counts,
36   Cumulative_Frequency = cumfreq
37 )
```

32:1 (Top Level) R Script

Console Background Jobs

R 4.5.1 C:/Users/User/Desktop/IT24103885/

	Class_Interval	Frequency	Cumulative_Frequency
1	20-25.55555555555556	2	2
2	25.55555555555556-31.11111111111111	3	5
3	31.11111111111111-36.66666666666667	6	11
4	36.66666666666667-42.22222222222222	9	20
5	42.22222222222222-47.77777777777778	6	26
6	47.77777777777778-53.33333333333333	3	29
7	53.33333333333333-58.88888888888889	6	35
8	58.88888888888889-64.44444444444444	3	38
9	64.44444444444444-70	2	40

