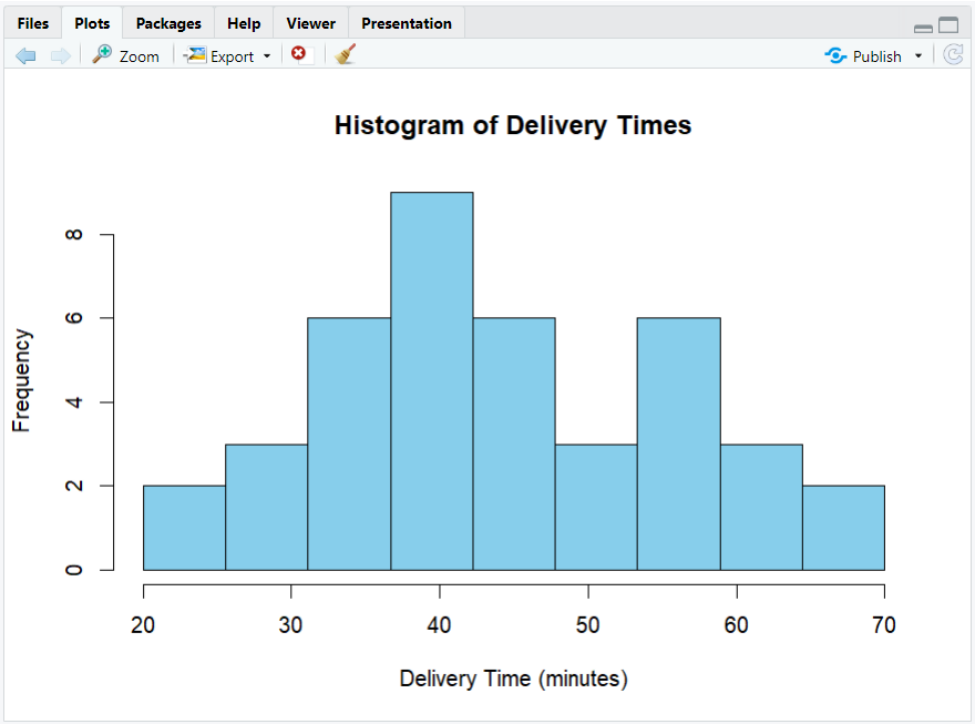
Exercise

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

```
> # setting the directory
> setwd("C:\\Users\\TUF\\Desktop\\Lab 05\\IT24103552")
> getwd()
[1] "C:/Users/TUF/Desktop/Lab 05/IT24103552"
>
> # 1
> delivery_data <- read.table("Exercise - Lab 05.txt", header = TRUE)
> Delivery_Times <- delivery_data
> # Check the data
> 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.

```
> # 2
> hist(Delivery_Times$Delivery_Time_.minutes.,breaks = seq(20, 70, length.out = 10),right = FALSE,
+      main = "Histogram of Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Frequency",
+      col = "skyblue",
+      border = "black"
+ )
> |
```



3. Comment on the shape of the distribution.

```
> # 3: Comment on the shape of the distribution
> # Answer : The histogram shows a roughly symmetric distribution with most delivery times between
35 and 55 minutes.
>
```

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

```
> # 4
> freq_table <- table(cut(Delivery_Times$Delivery_Time_.minutes.,
+                         breaks = seq(20, 70, by = 5), right = FALSE))
>
> cum_freq <- cumsum(freq_table)
>
> midpoints <- seq(20, 65, by = 5) + 2.5
>
> plot(midpoints, cum_freq, type = "o", col = "red", lwd = 2,
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency",
+      main = "Cumulative Frequency Polygon (Ogive)")
> grid()
>
```