Exercise

```
setwd("C:\\Users\\it24101035\\Desktop\\IT24101035")
getwd()
```

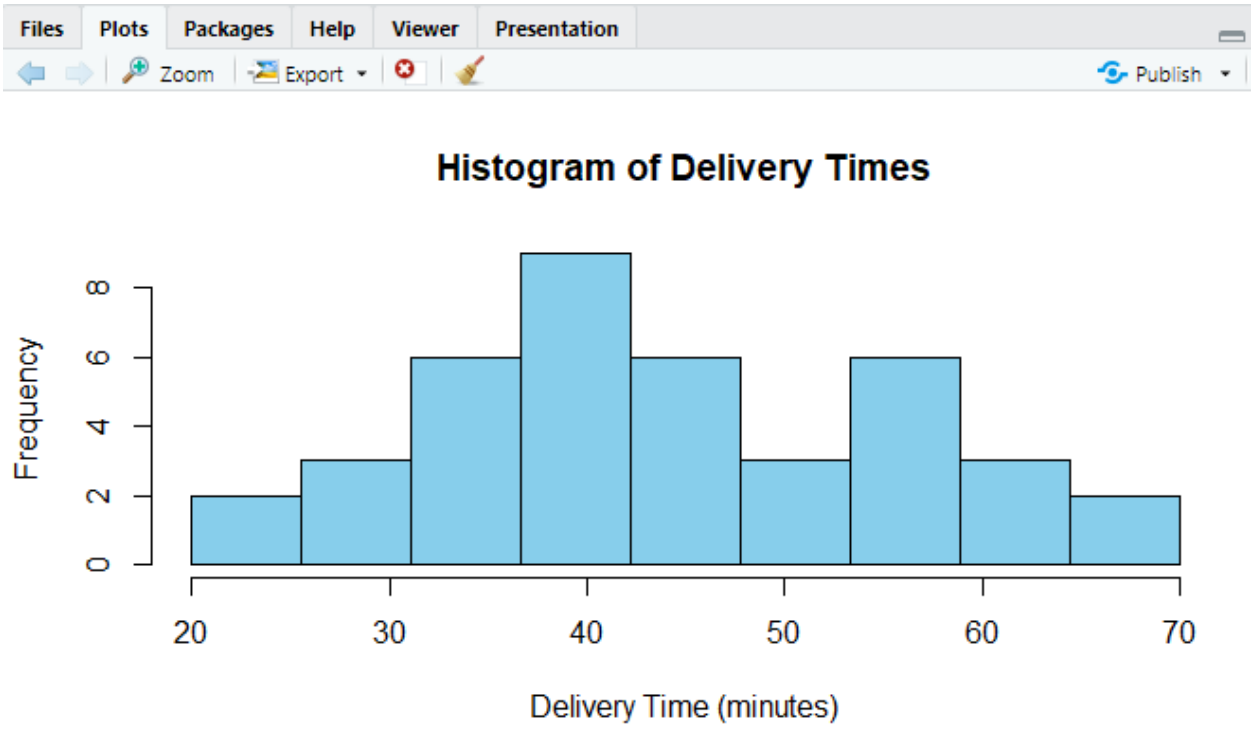
1.

```
> Delivery_Times <- read.table("Exercise - Lab 05.txt",
+                              header = TRUE,
+                              sep = "",
+                              stringsAsFactors = FALSE)
> head(Delivery_Times)
  Delivery_Time_.minutes.
1                      34
2                      54
3                      47
4                      29
5                      39
6                      61
```

2.

```
#2

hist(Delivery_Times$Delivery_Time_.minutes.,
     breaks = seq(20, 70, length.out = 10),    # 9 intervals
     right = FALSE,                            # right-open intervals [a, b)
     main = "Histogram of Delivery Times",
     xlab = "Delivery Time (minutes)",
     ylab = "Frequency",
     col = "skyblue",
     border = "black")
```




```
> hist(Delivery_Times$Delivery_Time_.minutes.,
+      breaks = seq(20, 70, length.out = 10),    # 9 intervals
+      right = FALSE,                            # right-open intervals [a, b)
+      main = "Histogram of Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Frequency",
+      col = "skyblue",
+      border = "black")
>
```

3.

The distribution of delivery times appears to be approximately symmetric, with a central tendency around 40 minutes. Frequencies increase toward the middle (30–45 minutes), then decrease toward the extremes (20–25 minutes and 65–70 minutes). There is no significant skewness, and the highest frequency, or "peak," occurs around the 35–45 minute interval.

4.

```
#4

times <- Delivery_Times$Delivery_Time_.minutes.


breaks <- seq(20, 70, length.out = 10)


freq <- hist(times, breaks = breaks, right = FALSE, plot = FALSE)


cum_freq <- cumsum(freq$counts)


plot(breaks[-1], cum_freq, type = "o", col = "blue", lwd = 2, pch = 16,
     main = "Cumulative Frequency Polygon (Ogive)",
     xlab = "Delivery Time (minutes)",
     ylab = "Cumulative Frequency")

grid()
```

```
> times <- Delivery_Times$Delivery_Time_.minutes.
> breaks <- seq(20, 70, length.out = 10)
> freq <- hist(times, breaks = breaks, right = FALSE, plot = FALSE)
> cum_freq <- cumsum(freq$counts)
> plot(breaks[-1], cum_freq, type = "o", col = "blue", lwd = 2, pch = 16,
+      main = "Cumulative Frequency Polygon (Ogive)",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency")
> grid()
```