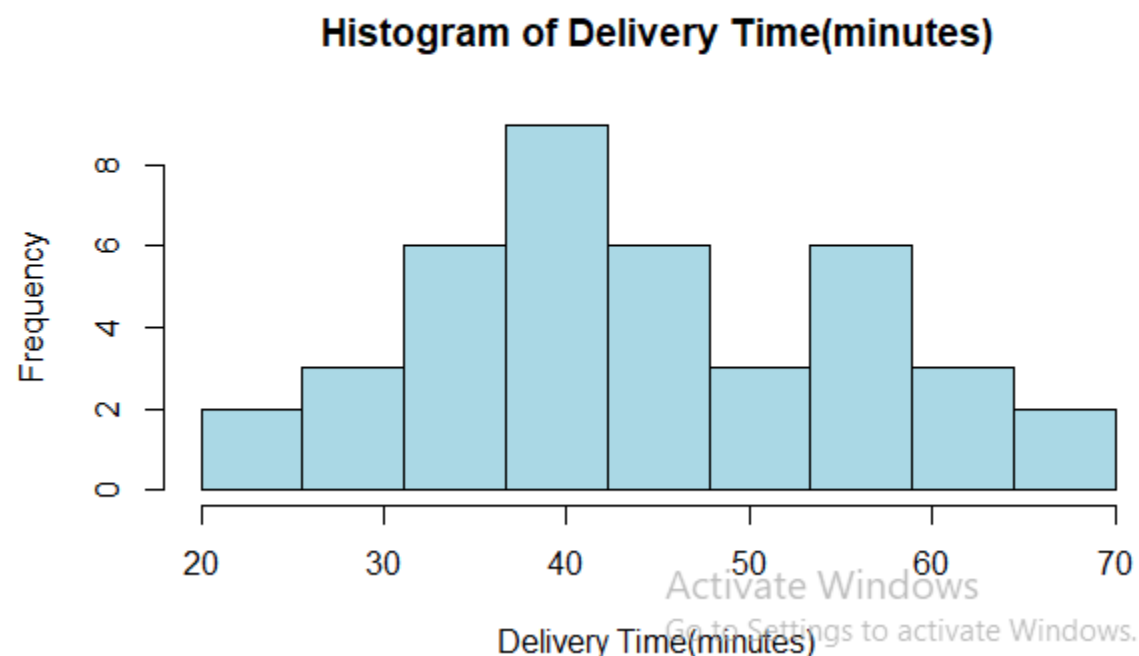


```
IT24100486.R x
Source on Save Run Source
1 setwd("C:\\Users\\IT24100486\\Desktop\\IT24100486")
2 Delivery_Times<-read.table("Exercise - Lab 05.txt",header = TRUE,sep=",")
3 fix(Delivery_Times)
4 attach(Delivery_Times)
```

```
> setwd("C:\\Users\\IT24100486\\Desktop\\IT24100486")
> Delivery_Times<-read.table("Exercise - Lab 05.txt",header = TRUE,sep=",")
> fix(Delivery_Times)
> attach(Delivery_Times)
```

```
6 hist(Delivery_Times$Delivery_Time_.minutes.,
7      main = "Histogram of Delivery Time(minutes)",
8      xlab = "Delivery Time(minutes)",
9      ylab = "Frequency",
10     breaks = seq(20,70,length = 10),
11     right = FALSE,
12     col = "lightblue")
13
14
```

```
Files Plots Packages Help Viewer Presentation
Zoom Export Publish
```



```
> hist(Delivery_Times$Delivery_Time_.minutes.,
+      main = "Histogram of Delivery Time(minutes)",
+      xlab = "Delivery Time(minutes)",
+      ylab = "Frequency",
+      breaks = seq(20,70,length = 10),
+      right = FALSE,
+      col = "lightblue")
# break: 20 30 40 50 60 70
```

3. The distribution appears to be approximately symmetric with a slight right skew. The usual delivery times were between 35 and 50 minutes, with few very short or very long delivery times. This histogram looks like a bell-shape, and the ogive shows the usual S-shape of a cumulative frequency plot, indicating the delivery time data show a rough normal distribution.

```
delivery_hist<-hist(Delivery_Time_.minutes.,
                    breaks = seq(20,70,length.out = 10),
                    right = FALSE,
                    plot = FALSE)

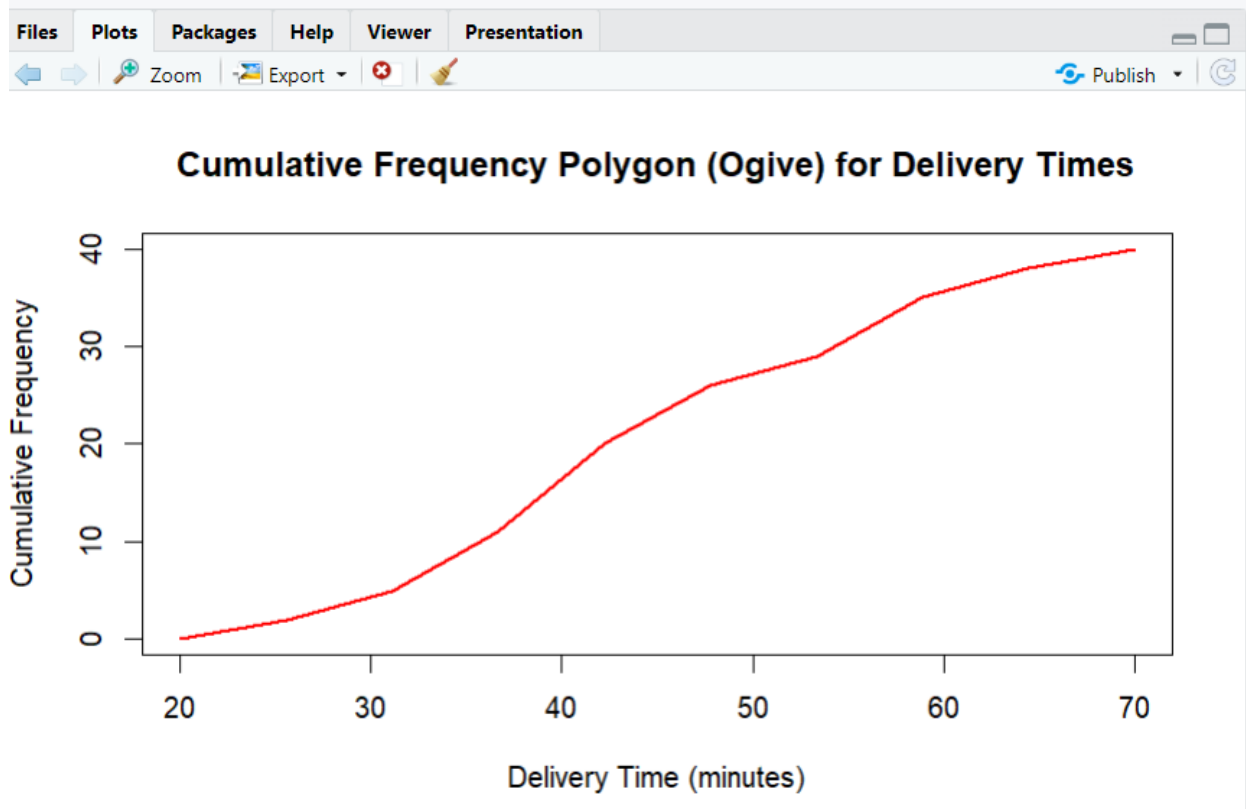
breaks <- delivery_hist$breaks
freq <- delivery_hist$counts

# cumulative frequency
cum_freq <- cumsum(freq)

# keep same length as breaks (11 values)
cum_freq_with_zero <- c(0, cum_freq)

# plot ogive
plot(breaks, cum_freq_with_zero,
     type = 'l',
     main = "Cumulative Frequency Polygon (Ogive) for Delivery Times",
     xlab = "Delivery Time (minutes)",
     ylab = "Cumulative Frequency",
     ylim = c(0, max(cum_freq)),
     col = "red",
     lwd = 2)

points(breaks, cum_freq_with_zero,
       pch = 16,
       col = "blue")
```



```
> delivery_hist<-hist(Delivery_Time_.minutes.,
+                     breaks = seq(20,70,length.out = 10),
+                     right = FALSE,
+                     plot = FALSE)
> breaks <- delivery_hist$breaks
> freq <- delivery_hist$counts
> # cumulative frequency
> cum_freq <- cumsum(freq)
> # keep same length as breaks (11 values)
> cum_freq_with_zero <- c(0, cum_freq)
> # plot ogive
> plot(breaks, cum_freq_with_zero,

> plot(breaks, cum_freq_with_zero,
+      type = 'l',
+      main = "Cumulative Frequency Polygon (Ogive) for Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency",
+      ylim = c(0, max(cum_freq)),
+      col = "red",
+      lwd = 2)
> |
```