IT2120 - Probability and Statistics

Lab Sheet 05

IT24100352

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1.

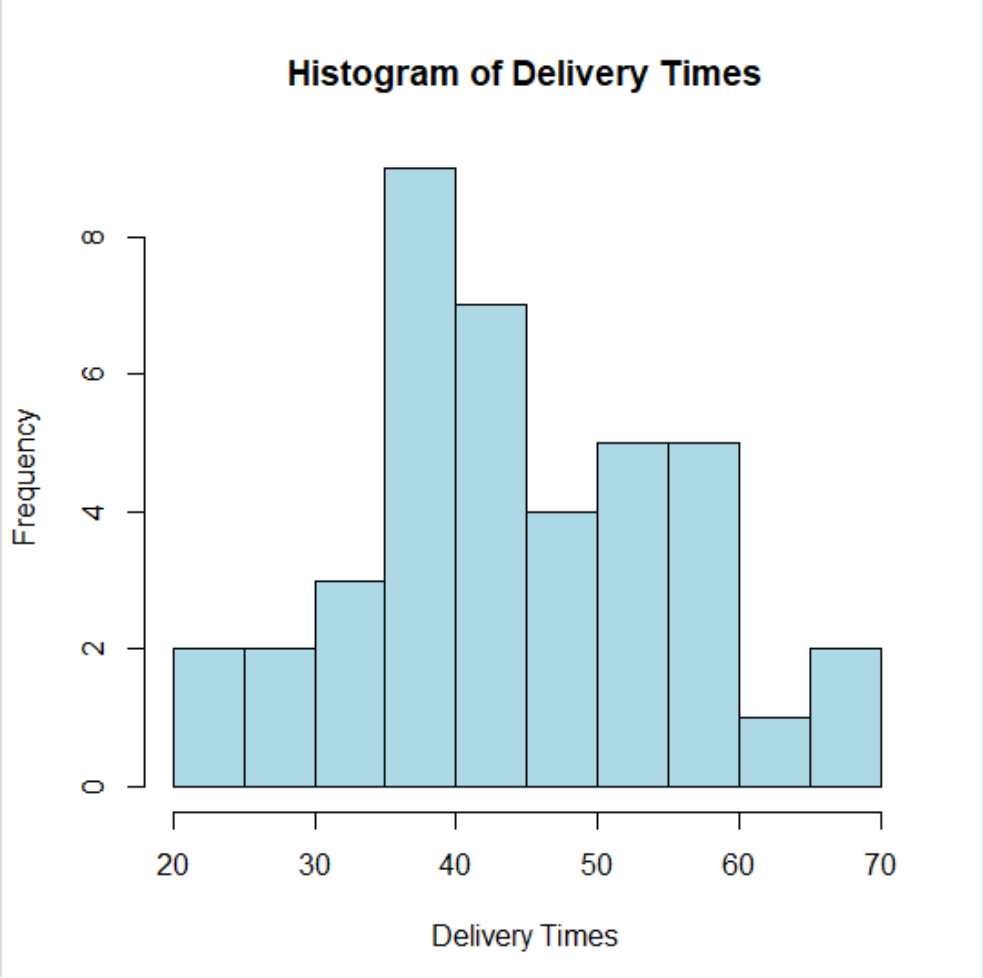
```
setwd("C:\\Users\\IT24100352\\Desktop\\IT24100352")
getwd()

Delivery_Times<-read.table("Exercise - Lab 05.txt",header=TRUE)
print(Delivery_Times)
```

```
> setwd("C:\\Users\\IT24100352\\Desktop\\IT24100352")
> getwd()
[1] "C:/Users/IT24100352/Desktop/IT24100352"
>
> Delivery_Times<-read.table("Exercise - Lab 05.txt",header=TRUE)
> print(Delivery_Times)
```

```
   Delivery_Time_.minutes.
1                       34
2                       54
3                       47
4                       29
5                       39
6                       61
7                       20
8                       40
9                       57
10                      36
11                      38
12                      44
13                      59
14                      38
```

```
hist(Delivery_Times$Delivery,
     breaks = seq(20, 70, by = 5),
     right = FALSE,
     main = "Histogram of Delivery Times",
     xlab = "Delivery Times",
     ylab = "Frequency",
     col = "lightblue",
     border = "black")
```

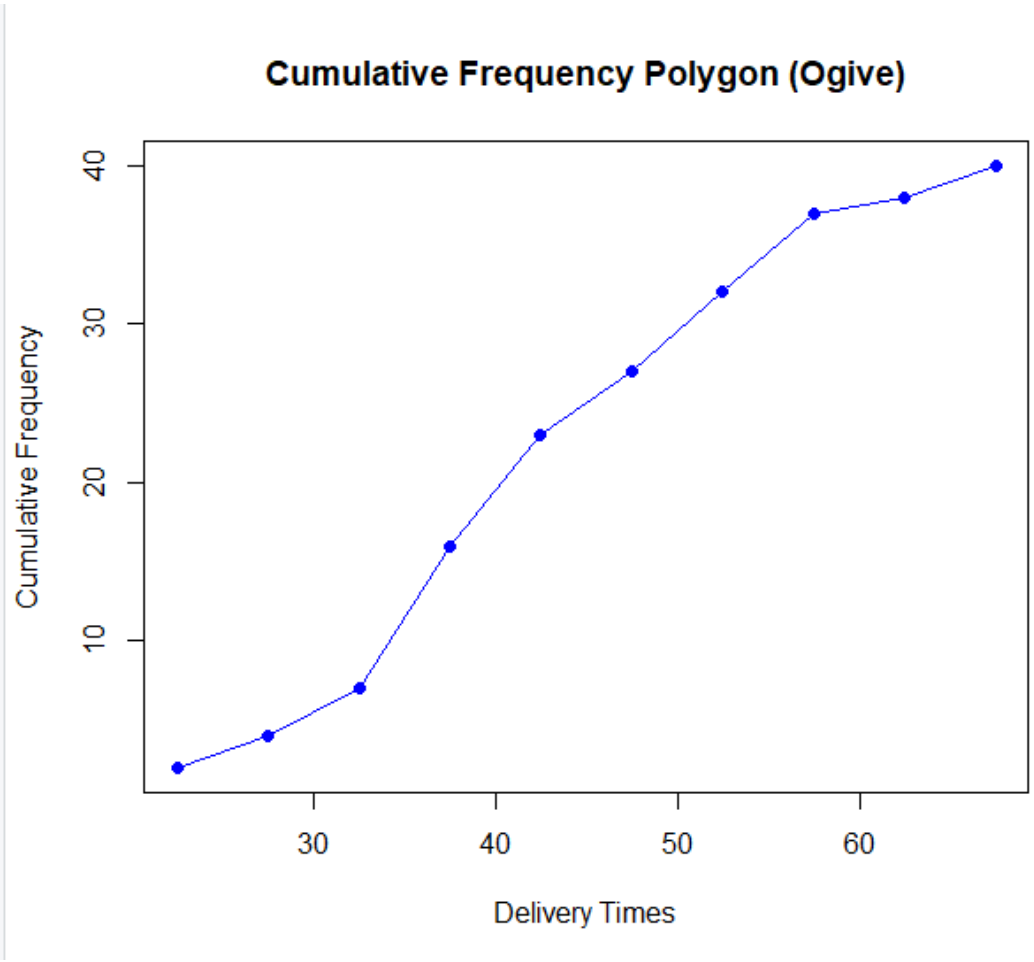
```
> hist(Delivery_Times$Delivery,
+      breaks = seq(20, 70, by = 5),
+      right = FALSE,
+      main = "Histogram of Delivery Times",
+      xlab = "Delivery Times",
+      ylab = "Frequency",
+      col = "lightblue",
+      border = "black")
>
```



3.This is a Right-skewed distribution.

```r
hist_data <- hist(Delivery_Times$Delivery,
                  breaks = seq(20, 70, by = 5),
                  right = FALSE,
                  plot = FALSE)


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")
```

```r
hist_data <- hist(Delivery_Times$Delivery,
                  breaks = seq(20, 70, by = 5),
                  right = FALSE,
                  plot = FALSE)


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")
```


Cumulative Frequency Polygon (Ogive)
Cumulative Frequency
10
20
30
40
30
40
50
60
Delivery Times