Probability and Statistics

Lab Sheet 05

IT24100326

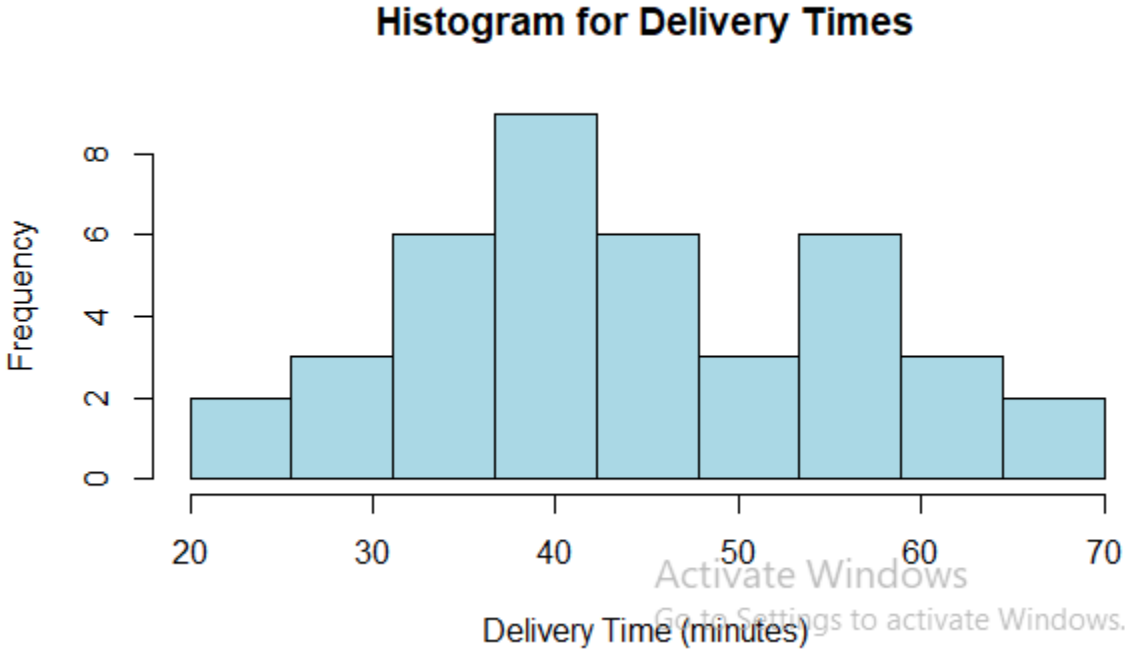
Question_01

```
#Question_01

setwd("C:\\Users\\it24100326\\Desktop\\IT24100326")
DeliveryTimes <- read.table("Exercise - Lab 05.txt", header=TRUE, sep ="" )
head(DeliveryTimes)
```

```
>
>
> setwd("C:\\Users\\it24100326\\Desktop\\IT24100326")
> DeliveryTimes <- read.table("Exercise - Lab 05.txt", header=TRUE, sep ="" )
> head(DeliveryTimes)
  Delivery_Time_.minutes.
1                      34
2                      54
3                      47
4                      29
5                      39
6                      61
>
```

Question_2

```r
# Question_02
names(DeliveryTimes) <- "DeliveryTime"

hist(DeliveryTimes$DeliveryTime,
     main = "Histogram for Delivery Times",
     xlab = "Delivery Time (minutes)",
     breaks = seq(20, 70, length.out = 10),
     right = FALSE,
     col = "lightblue",
     border = "black")
```



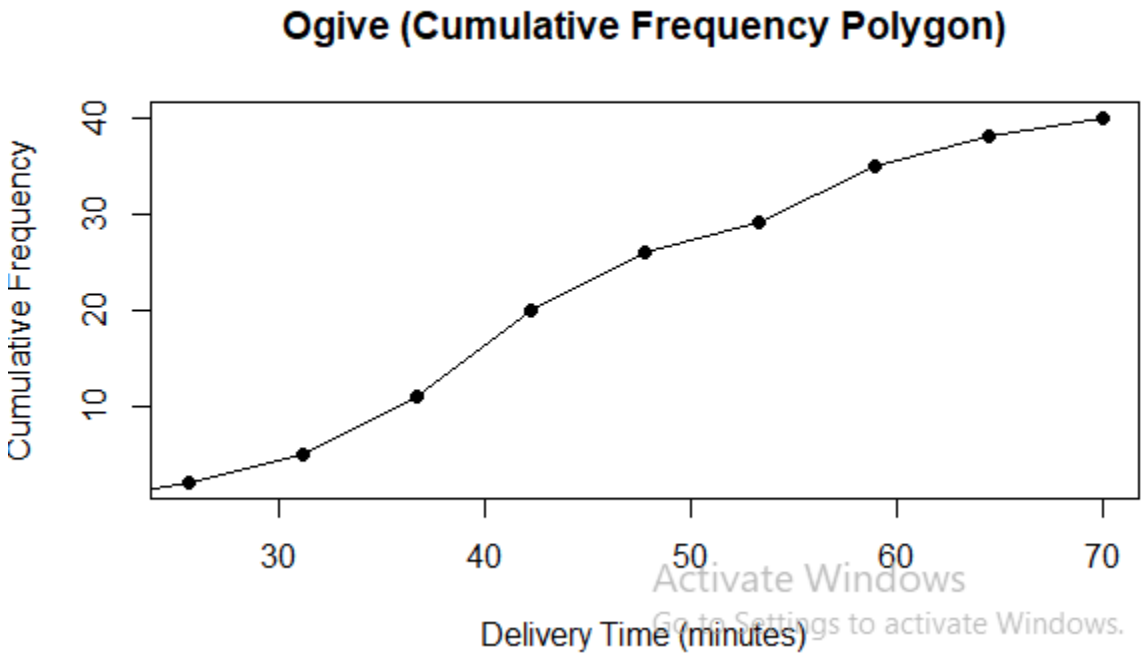
```
> names(DeliveryTimes) <- "DeliveryTime"
> hist(DeliveryTimes$DeliveryTime,
+      main = "Histogram for Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      breaks = seq(20, 70, length.out = 10),
+      right = FALSE,
+      col = "lightblue",
+      border = "black")
> names(DeliveryTimes) <- "DeliveryTime"
> hist(DeliveryTimes$DeliveryTime,
+      main = "Histogram for Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      breaks = seq(20, 70, length.out = 10),
+      right = FALSE,
+      col = "lightblue",
+      border = "black")
>
```

Question_3

This distribution is approximately symmetric: Because left and ride sides centers are fairly balanced.similar to normal distributionand not extreme outliers or long tails and also its perfectly smooth because of the small sample.

Question_4

```r
#question_04

names(DeliveryTimes)
x <- as.numeric(DeliveryTimes[[1]])

# Corrected histogram
hist(x,
     main = "Histogram for Delivery Times",
     xlab = "Delivery Times (minutes)",
     breaks = seq(20, 70, length.out = 10),
     right = FALSE,
     col = "lightblue",
     border = "black")


h <- hist(x, breaks = seq(20, 70, length.out = 10), right = FALSE, plot = FALSE)
cf <- cumsum(h$counts)
plot(h$breaks[-1], cf, type = "o",
     main = "Ogive (Cumulative Frequency Polygon)",
     xlab = "Delivery Time (minutes)",  # fixed spelling
     ylab = "Cumulative Frequency",
     pch = 16)
points(h$breaks[1], 0, pch = 16)
lines(c(h$breaks[1], h$breaks[-1]), c(0, cf))
```



```
>
>
> names(DeliveryTimes)
[1] "DeliveryTime"
> x <- as.numeric(DeliveryTimes[[1]])
> # Corrected histogram
> hist(x,
+      main = "Histogram for Delivery Times",
+      xlab = "Delivery Times (minutes)",
+      breaks = seq(20, 70, length.out = 10),
+      right = FALSE,
+      col = "lightblue",
+      border = "black")
> points(h$breaks[1], 0, pch = 16)
> points(h$breaks[1], 0, pch = 16)
> lines(c(h$breaks[1], h$breaks[-1]), c(0, cf))
>
```