Sri Lanka Institute of Information Technology

Lab Submission

Lab sheet No 5

IT24104110

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Probability and Statistics - IT2120

B.Sc. (Hons) in Information Technology

Exercise

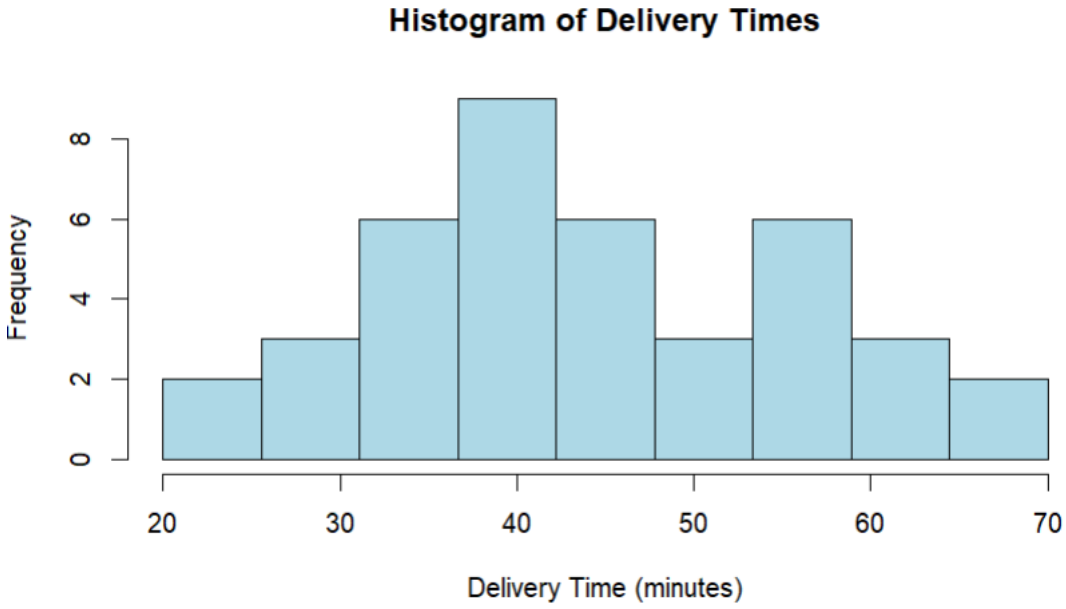
1.

```
#1
Delivery_Times <- read.table("Exercise - Lab 05.txt",header = TRUE, sep =",")
names(Delivery_Times) <- c("Deliver_Times")
fix(Delivery_Times)

```

2.

```
#2
hist(Delivery_Times$Deliver_Times,
     breaks = seq(20, 70, length.out = 10),
     right = FALSE,
     main = "Histogram of Delivery Times",
     xlab = "Delivery Time (minutes)",
     col = "lightblue")
```



3.

```
#3
summary(Delivery_Times$Deliver_Times)
```

```
> #3
> summary(Delivery_Times$Deliver_Times)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  20.00   36.00   42.50   43.75   54.00   67.00
```

The histogram of delivery times shows a right-skewed distribution, with most delivery times clustered toward the lower end (closer to 20) and fewer data points extending towards the higher end (closer to 70).
This suggests that the majority of deliveries are completed in a shorter amount of time.

4.

```r
#4
hist_data <- hist(Delivery_Times$Deliver_Times,
                  breaks = seq(20, 70, length.out = 10),
                  right = FALSE,
                  plot = FALSE)

cum_freq <- cumsum(hist_data$counts)

plot(hist_data$breaks[-1], cum_freq,
     type = "o",
     main = "Cumulative Frequency Polygon (Ogive)",
     xlab = "Delivery Time (minutes)",
     ylab = "Cumulative Frequency",
     col = "darkgreen")
```