

Faculty of Computing

Year 2 Semester 1 (2025)

IT2120 - Probability and Statistics

Lab Sheet 05

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Lab Exercise 5

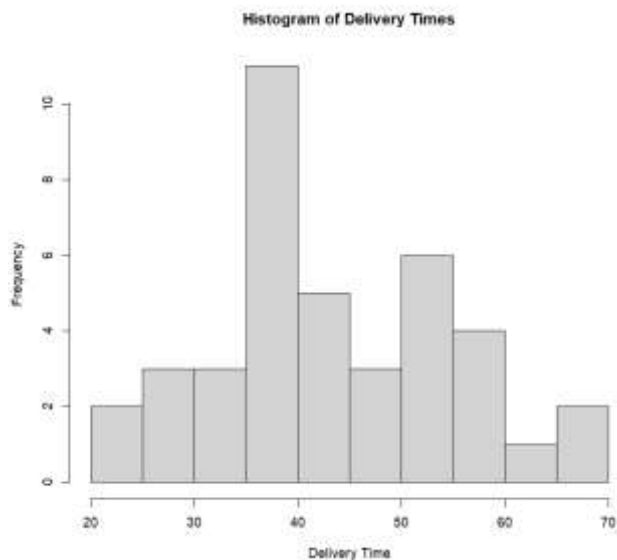
1. Import the dataset ('Exercise – Lab 05.txt') into R and store it in a data frame called "Delivery Times".

```
Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE)
Delivery_Times$`Delivery_Time_.minutes.` <- as.numeric(Delivery_Times$`Delivery_Time_.minutes.`)

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Delivery_Times$`Delivery_Time_.minutes.` <- as.numeric(Delivery_Times$`Delivery_Time_.minutes.`)
```

2. Draw a histogram for deliver times using nine class intervals where the lower limit is 20 and upper limit is 70. Use right open intervals.

```
hist(Delivery_Times$`Delivery_Time_.minutes.` ,
     breaks = seq(20, 70, by = 5),
     right = TRUE,
     main = "Histogram of Delivery Times",
     xlab = "Delivery Time",
     ylab = "Frequency")
```



3. Comment on the shape of the distribution.

```
cf <- cumsum(table(cut(Delivery_Times$`Delivery_Time_.minutes.` , breaks = seq(20, 70, by = 5), right = TRUE)))
```

Values

cf	Named int [1:10]	0	3	6	17	22	25	31	35	36	38
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4. Draw a cumulative frequency polygon (ogive) for the data in a separate plot.

```
plot(seq(22.5, 67.5, by = 5), cf, type = "o",  
     xlab = "Delivery Time", ylab = "Cumulative Frequency",  
     main = "Cumulative Frequency Polygon (Ogive)")
```

