

Probability and Statistics - IT2120

Labsheet 05

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```
setwd("C:\\Users\\maish\\Desktop\\IT24101981")
Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE)

colnames(Delivery_Times) <- "Delivery_Time"
head(Delivery_Times)
str(Delivery_Times)

breaks <- seq(20, 70, length.out = 10)
hist(Delivery_Times$Delivery_Time, right = FALSE, breaks = breaks, main = "Histogram of Delivery Times", xlab = "Delivery Time", ylab = "Frequency")

hist_data <- hist(Delivery_Times$Delivery_Time, breaks = breaks, right = FALSE, plot = FALSE)
frequencies <- hist_data$counts
cum_freq <- cumsum(frequencies)
print(frequencies)
print(cum_freq)

midpoints <- hist_data$mids
plot(midpoints, cum_freq, type = "b",
     main = "Cumulative Frequency Polygon for Delivery Time",
     xlab = "Delivery Time (minutes)",
     ylab = "Cumulative Frequency",
     pch = 16)
```

```
Console Terminal Background Jobs x
R - R 4.5.1 - C:/Users/maish/Desktop/IT24101981/

R version 4.5.1 (2025-06-13 ucrt) -- "Great Square Root"
Copyright (C) 2025 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

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Type 'q()' to quit R.

> setwd("C:\\Users\\maish\\Desktop\\IT24101981")
> Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE)
> colnames(Delivery_Times) <- "Delivery_Time"
> head(Delivery_Times)
  Delivery_Time
1           34
2           54
3           47
4           29
5           39
6           61
> str(Delivery_Times)
'data.frame': 40 obs. of 1 variable:
 $ Delivery_Time: int  34 54 47 29 39 61 20 40 57 36 ...
> breaks <- seq(20, 70, length.out = 10)
> hist(Delivery_Times$Delivery_Time, right = FALSE, breaks = breaks, main = "Histogram of Delivery Times", xlab = "Delivery Time", ylab = "Frequency")
> hist_data <- hist(Delivery_Times$Delivery_Time, breaks = breaks, right = FALSE, plot = FALSE)
> frequencies <- hist_data$counts
> cum_freq <- cumsum(frequencies)
> print(frequencies)
[1] 2 3 6 9 6 3 6 3 2
> print(cum_freq)
[1] 2 5 11 20 26 29 35 38 40
> midpoints <- hist_data$mids
> plot(midpoints, cum_freq, type = "b",
+      main = "Cumulative Frequency Polygon for Delivery Time",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency",
+      pch = 16)
> |
```