Sri Lanka Institute of Information Technology

Lab Submission

Lab sheet No 05

IT24104192

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Probability and Statistics| IT2120

B.Sc. (Hons) in Information Technology

Exercise

1.

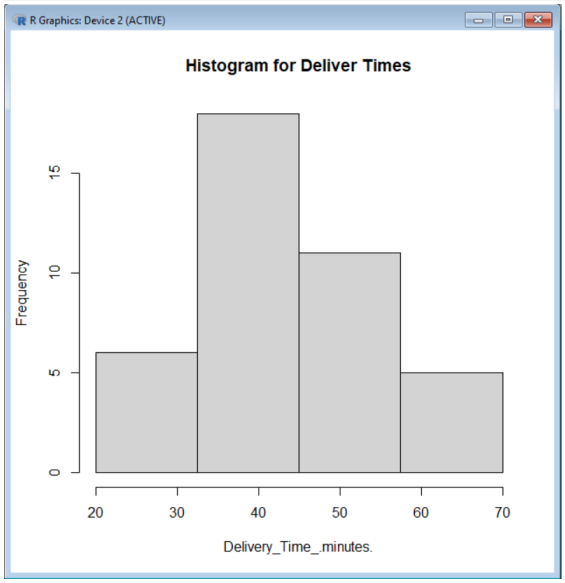
```
> setwd("F:\\SLIIT\\Y2S1\\Probability and Statistics\\Labs\\IT24104192_Lab5")
> Delivery_Times<-read.table("Exercise.txt",header=TRUE,sep = ",")
> fix(Delivery_Times)
> attach(Delivery_Times)
>
```

Data Editor

	Delivery_Time_.minutes.	var2	var3	var4	var5
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				
15	40				
16	40				
17	67				
18	66				
19	55				

2.

```
> # Draw histogram
> histogram<-hist(Delivery_Time_.minutes.,main="Histogram for Deliver Times",breaks = seq(20, 70,length = 5),right = TRUE)
>
```



3. The histogram shows a symmetric and bell-shaped distribution. Most delivery times are grouped around the middle range (30-50). There are few outliers, and some deliveries are much faster or slower-but they don't affect the overall pattern much. So, this shape is approximately normal.

4.

```
> #Cumultaative Frequency Polygon
> names(Delivery_Times)[1] <- "DeliveryTime"
>
> str(Delivery_Times)
'data.frame':   40 obs. of  1 variable:
 $ DeliveryTime: int  34 54 47 29 39 61 20 40 57 36 ...
>
> hist_data <- hist(Delivery_Times$DeliveryTime,
+                   breaks = seq(20, 70, length.out = 10),
+                   right = FALSE,
+                   plot = FALSE)
> cum_freq <- cumsum(hist_data$counts)
> breaks <- hist_data$breaks
>
> plot(breaks, c(0, cum_freq),
+      type = "l",
+      main = "Cumulative Frequency Polygon (Ogive)",
+      xlab = "Delivery Time",
+      ylab = "Cumulative Frequency",
+      ylim = c(0, max(cum_freq)))
>
```