

# Sri Lanka Institute of Information Technology



Lab Submission  
<Lab sheet 05>

<IT24101458>

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**Probability and Statistics| IT2120**

B.Sc. (Hons) in Information Technology

## Exercise

1.

```
1 #Set the working directory
2 setwd("D:/Desktop/IT24101458")
3
4 #1
5 DeliveryTimes<-read.table("Exercise - Lab 05.txt",header=TRUE)
```

```
> setwd("D:/Desktop/IT24101458")
>
> #1
> DeliveryTimes<-read.table("Exercise - Lab 05.txt",header=TRUE)
```

2.

```
#2
colnames(DeliveryTimes) <- "DeliveryTime"
DeliveryTimes$DeliveryTime <- as.numeric(DeliveryTimes$DeliveryTime)
hist(DeliveryTimes$DeliveryTime,
     breaks=seq(20,70,by=(70-20)/9),
     right=FALSE,
     main = "Histogram of Delivery Times",
     xlab = "Delivery Time (minutes)",
     ylab = "Frequency" )
```

```
> #2
> colnames(DeliveryTimes) <- "DeliveryTime"
> DeliveryTimes$DeliveryTime <- as.numeric(DeliveryTimes$DeliveryTime)
> hist(DeliveryTimes$DeliveryTime,
+      breaks=seq(20,70,by=(70-20)/9),
+      right=FALSE,
+      main = "Histogram of Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Frequency" )
```



3. The distribution is roughly bell-shaped suggesting a normal distribution. The frequency distribution decreases symmetrically on both sides where it peaks around 40 minutes.

4.

```
#4
freq_table<-table(cut(DeliveryTimes$DeliveryTime,breaks=seq(20,70,by=5),right=TRUE))
cumulative_freq<-cumsum(freq_table)
midpoints<-seq(25,70,by=5)

plot(midpoints, cumulative_freq,
     type="o",
     main="Cumulative Frequency Polygon(Ogive)",
     xlab = "Delivery Time (minutes)",
     ylab = "Cumulative Frequency")
```

```
> freq_table<-table(cut(DeliveryTimes$DeliveryTime,breaks=seq(20,70,by=5),right=TRUE))
> cumulative_freq<-cumsum(freq_table)
> midpoints<-seq(25,70,by=5)
>
> plot(midpoints, cumulative_freq,
+      type="o",
+      main="Cumulative Frequency Polygon(Ogive)",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency")
```

