IT2120 - Probability and Statistics

Lab Sheet 05

IT24104140 – Bandara P.M.A.N

<u>Exercise</u>

```r
1   setwd("C:\\Users\\ashen\\OneDrive\\Desktop\\IT24104140")
2
3   Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE)
4
5   head(Delivery_Times)
6
7   names(Delivery_Times) <- "Time"
8
9   breaks <- seq(20, 70, length.out = 10)
10
11  hist(Delivery_Times$Time,
12       breaks = breaks,
13       right = FALSE,
14       col = "lightblue",
15       main = "Histogram of Delivery Times",
16       xlab = "Delivery Time (minutes)",
17       ylab = "Frequency")
18
```

```r
freq <- hist(Delivery_Times$Time, breaks = breaks, right = FALSE, plot = FALSE)

cum_freq <- cumsum(freq$counts)
midpoints <- freq$mids

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

```
> setwd("C:\\Users\\ashen\\OneDrive\\Desktop\\IT24104140")
> Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE)
>
> head(Delivery_Times)
  Delivery_Time_.minutes.
1                      34
2                      54
3                      47
4                      29
5                      39
6                      61
>
> names(Delivery_Times) <- "Time"
>
> breaks <- seq(20, 70, length.out = 10)
```

```
> hist(Delivery_Times$Time,
+      breaks = breaks,
+      right = FALSE,
+      col = "lightblue",
+      main = "Histogram of Delivery Times",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Frequency")
>
> freq <- hist(Delivery_Times$Time, breaks = breaks, right = FALSE, plot = FALSE)
>
> cum_freq <- cumsum(freq$counts)
> midpoints <- freq$mids
>
> plot(midpoints, cum_freq,
+      type = "o",
+      col = "red",
```

```
+      main = "Cumulative Frequency Polygon (Ogive)",
+      xlab = "Delivery Time (minutes)",
+      ylab = "Cumulative Frequency")
>
```

Cumulative Frequency Polygon (Ogive)