Probability and Statistics - IT2120 – Lab Sheet 05

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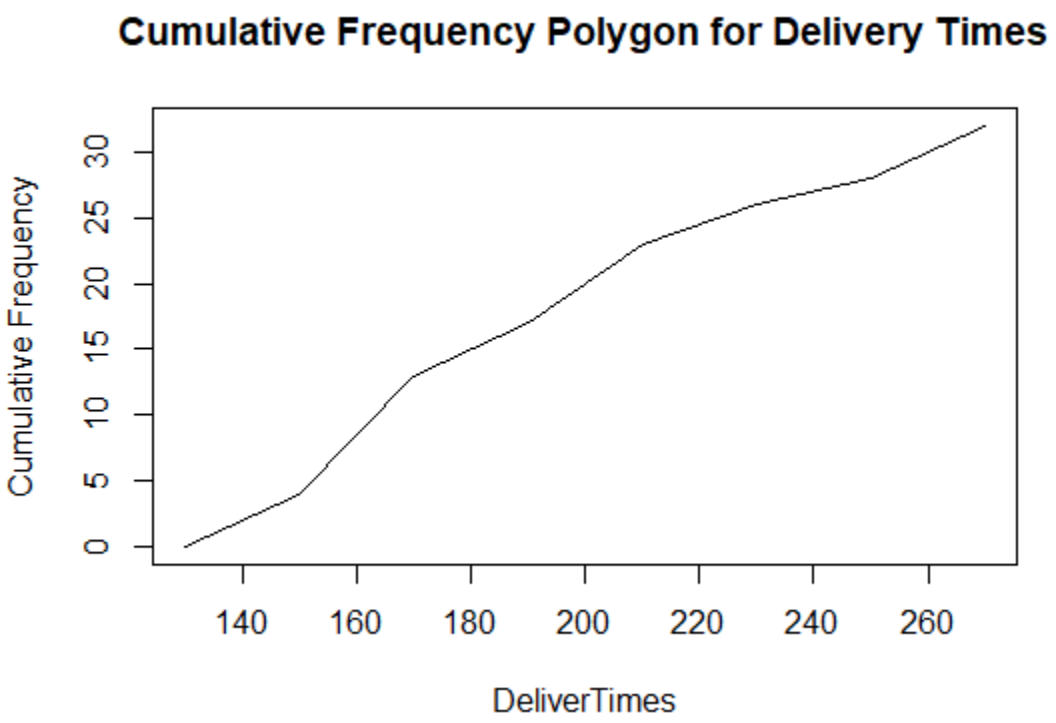
```r
getwd()
setwd("C:\\Users\\IT24102395\\Desktop\\IT24102395_Lab5")

#Q1
Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep = ",")

#Q2
names(Delivery_Times) <- c("DeliverTimes")
attach(Delivery_Times)
histogram <- hist(DeliverTimes, main = "Histogram for Delivery Times",
                  breaks = seq(20,70, length = 10), right = FALSE)

#Q3
#The distribution is roughly symmetric and looks like a bell-shaped curve.

#Q4
cum.freq <- cumsum(freq)

new <- c()
for(i in 1:length(breaks)){
  if(i==1) {
    new[i]=0
  } else {
    new[i]= cum.freq[i-1]
  }
}

plot(breaks, new, type = 'l', main = "Cumulative Frequency Polygon for Delivery Times",
     xlab = "DeliverTimes", ylab = "Cumulative Frequency", ylim = c(0,max(cum.freq)))
cbind(UpperLimit = breaks, CumulativeFrequency = new)
```

```
R 4.2.2 · C:/Users/IT24102395/Desktop/IT24102395_Lab5/
> getwd()
[1] "C:/Users/IT24102395/Desktop/IT24102395_Lab5"
> setwd("C:\\Users\\IT24102395\\Desktop\\IT24102395_Lab5")
>
> #Q1
> Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep = ",")
> names(Delivery_Times) <- c("DeliverTimes")
> attach(Delivery_Times)
The following object is masked from Delivery_Times (pos = 3):

    DeliverTimes

> histogram <- hist(DeliverTimes, main = "Histogram for Delivery Times",
+                   breaks = seq(20,70, length = 10), right = FALSE)
> #Q4
> cum.freq <- cumsum(freq)
> new <- c()
> for(i in 1:length(breaks)){
+   if(i==1) {
+     new[i]=0
+   } else {
+     new[i]= cum.freq[i-1]
+   }
+ }
> plot(breaks, new, type = 'l', main = "Cumulative Frequency Polygon for Delivery Times",
+      xlab = "DeliverTimes", ylab = "Cumulative Frequency", ylim = c(0,max(cum.freq)))
> cbind(UpperLimit = breaks, CumulativeFrequency = new)
     UpperLimit CumulativeFrequency
[1,]        130                   0
[2,]        150                   4
[3,]        170                  13
[4,]        190                  17
[5,]        210                  23
[6,]        230                  26
[7,]        250                  28
[8,]        270                  32
```


Histogram for Delivery Times
Frequency
0
2
4
6
8
20
30
40
50
60
70
DeliverTimes


Cumulative Frequency Polygon for Delivery Times
Cumulative Frequency
0
5
10
15
20
25
30
140
160
180
200
220
240
260
DeliverTimes