Sri Lanka Institute of Information Technology

Lab Submission
<Lab sheet No.5>

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IT2120 - Probability and Statistics

```r
setwd("C:\\Users\\it24100716\\Desktop\\Lab5")

getwd()

data <- read.table("Data.txt", header=TRUE,sep =",")
data

fix(data)

names(data)<-c("X1","X2")
data


attach(data)

hist(X2,main="Histrogram for Number of Shareholders")

histogram <- hist (X2,main="Histogram for Number of Shareholders",breaks = seq(130,270,length = 8),right = FALSE)
?hist

breaks <- round(histogram$breaks)

freq <- histogram$counts

mids <- histogram$mids

classes <- c()

for (i in 1:length(breaks)-1){
```

```r
classes <- c()

for (i in 1:length(breaks)-1){
  classes[i] <- paste0("[",breaks[i],",",breaks[i+1], ")")

}

cbind(classes = classes, frequency = freq )


lines (mids,freq)

plot(mids,freq,type ='l', main="Frequency polygon for Shareholders",xlab = "shareholders", ylab ="Frequency", ylim = c(0,max(freq)))


cum.freq <- cumsum(freq)

new <-c()


for(i in 1:length(braks)){
  if(i==1){
    new[i]=0

  }else{
    new[i] = cum.freq[i-1]

  }

}
```

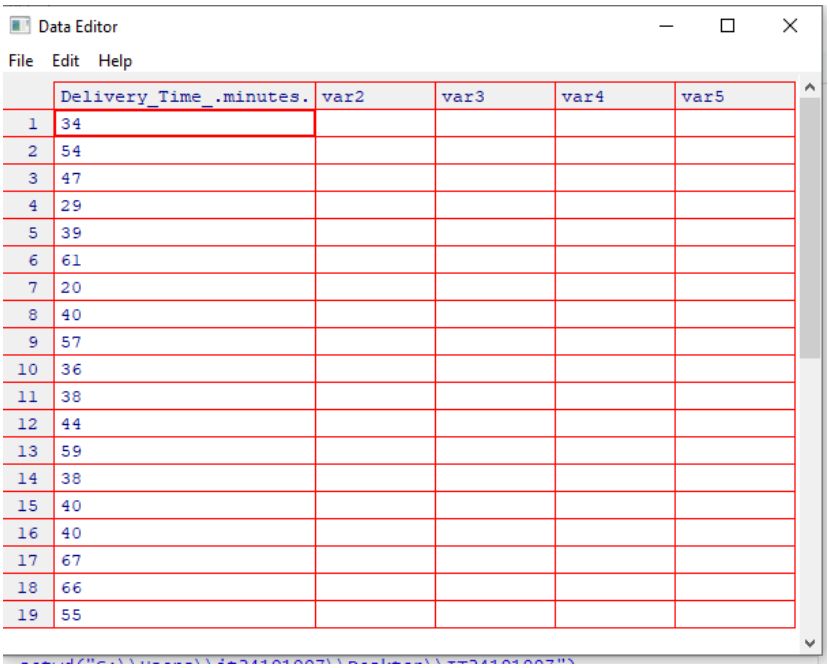
Environment | History | Connections | Tutorial

Import Dataset | 156 MiB | List

R | Global Environment

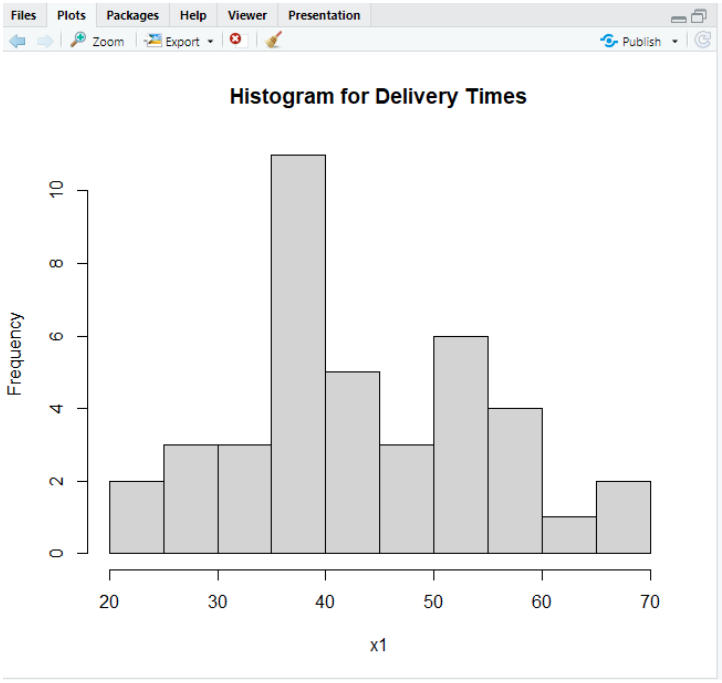
Data	
Delivery_Times	40 obs. of 1 variable
histogram	List of 6
values	
breaks	num [1:10] 20 26 31 37 42 48 53 59 64 70
classes	chr [1:9] "[20,26)" "[26,31)" "[31,37)" "[37,42)" "[42,48)" "…
cum.freq	int [1:9] 2 5 11 20 26 29 35 38 40
freq	int [1:9] 2 3 6 9 6 3 6 3 2
i	10L
mids	num [1:9] 22.8 28.3 33.9 39.4 45 ...
new	num [1:10] 0 2 5 11 20 26 29 35 38 40

```
> setwd("C:\\Users\\it24100716\\Desktop\\Lab5")
>
> getwd()
[1] "C:/Users/it24100716/Desktop/Lab5"
>
> data <- read.table("Data.txt", header=TRUE,sep =",")
> data
                        Company Number_of_Shareholders.thousands.
1     Pan_American_World_Airways                                144
2       General_Public_Utilities                                266
3           Occidental_Petroleum                                177
4         Middle_South_Utilities                                133
5                DaimlerChrysler                                209
6     Standard_Oil_of_California                                264
7                Bethlehem_Steel                                160
8           Long_Island_Lighting                                143
9                           RCA                                246
```

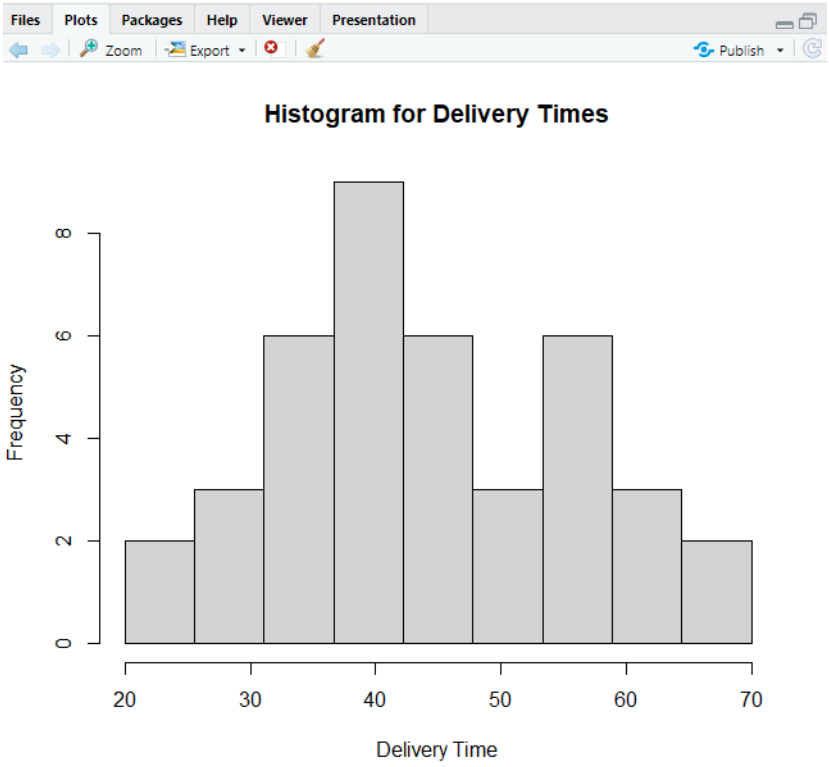


	Delivery_Time_.minutes.	var2	var3	var4	var5
1	34				
2	54				
3	47				
4	29				
5	39				
6	61				
7	20				
8	40				
9	57				
10	36				
11	38				
12	44				
13	59				
14	38				
15	40				
16	40				
17	67				
18	66				
19	55				

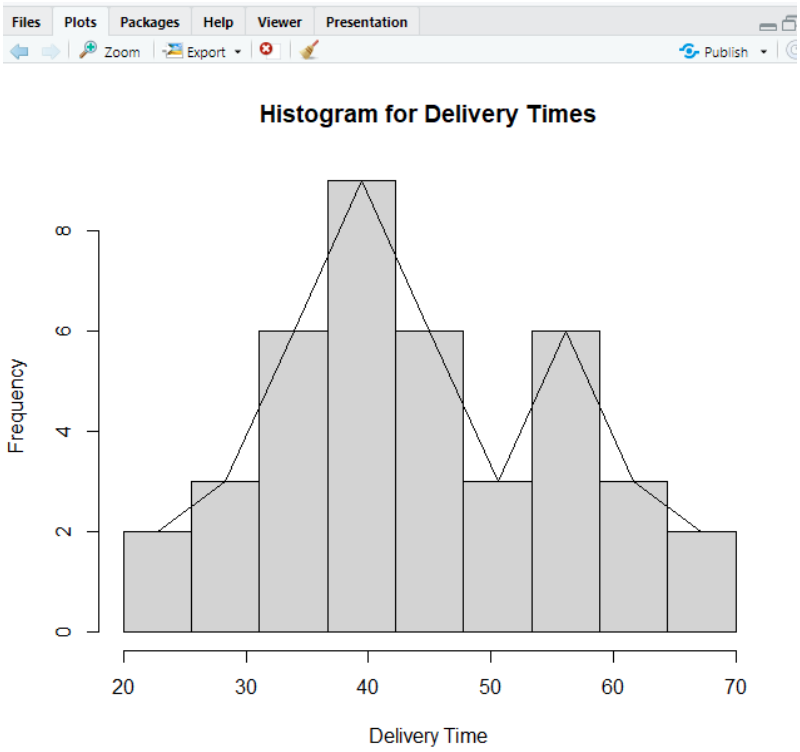
```
> attach(Delivery_Times)
The following object is masked from Delivery_Times (pos = 4):

    Delivery_Time_.minutes.

The following object is masked from Delivery_Times (pos = 6):

    Delivery_Time_.minutes.

The following object is masked from Delivery_Times (pos = 10):

    Delivery_Time_.minutes.

The following object is masked from Delivery_Times (pos = 11):

    Delivery_Time_.minutes.

> names(Delivery_Times)<-c("x1")
> attach(Delivery_Times)
The following object is masked from Delivery_Times (pos = 4):

    x1

The following object is masked from Delivery_Times (pos = 6):

    x1
```




```
> histogram<- hist(x1,main="Histogram for Delivery Times" , xlab = "Delivery Time",
breaks = seq(20,70,length = 10),right = FALSE)
```

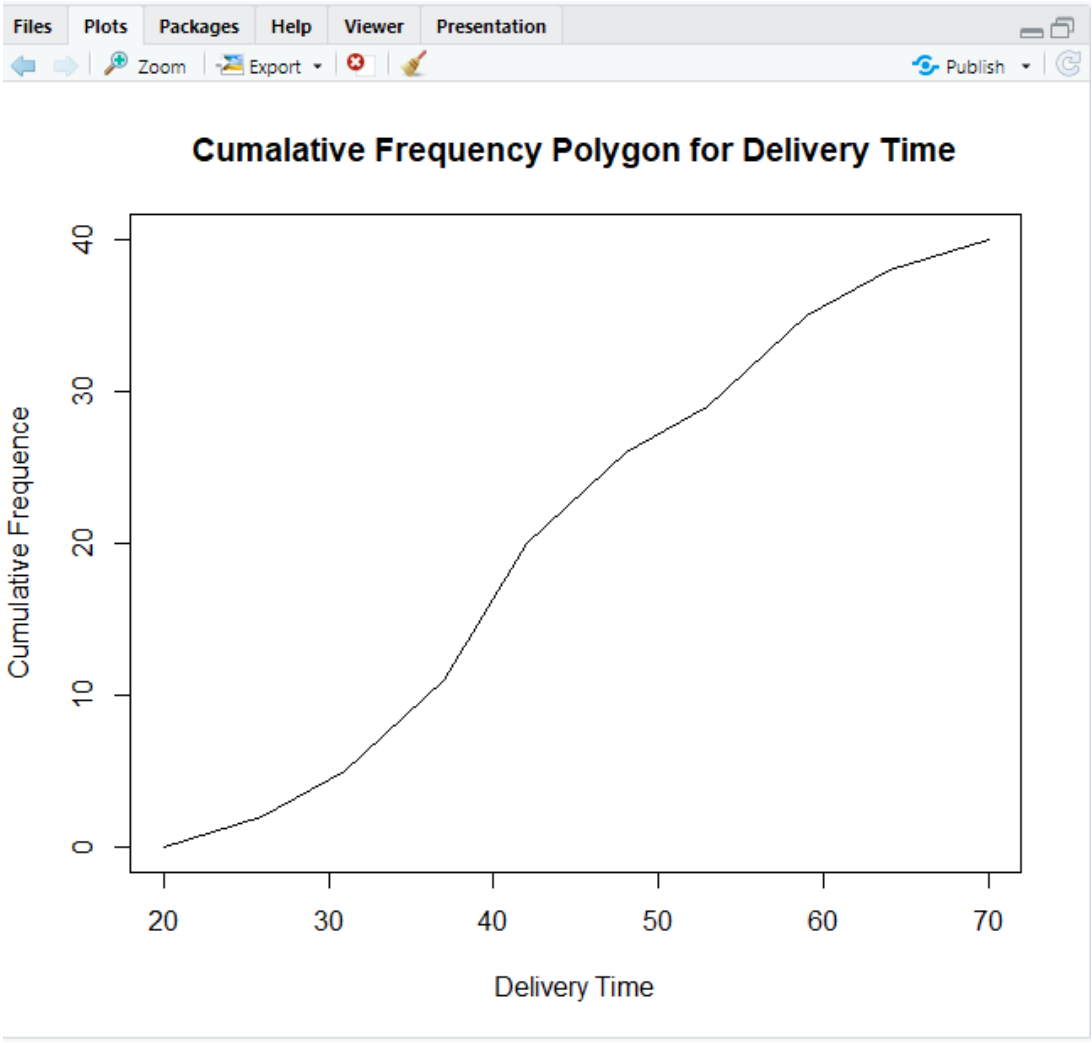



```
> breaks <- round(histogram$breaks)
> freq <- histogram$counts
> mids <- histogram$mids
> classes <- c()
> for (i in 1:length(breaks)-1) {
+   classes[i] <- paste0("[",breaks[i],",",breaks[i+1],")")
+ }
> cbind(classes = classes,frequency = freq)
      classes   frequency
 [1,] "[20,26)" "2"
 [2,] "[26,31)" "3"
 [3,] "[31,37)" "6"
 [4,] "[37,42)" "9"
 [5,] "[42,48)" "6"
 [6,] "[48,53)" "3"
 [7,] "[53,59)" "6"
 [8,] "[59,64)" "3"
 [9,] "[64,70)" "2"
> lines(mids,freq)
>
```




```
> plot(mids,freq,type = 'l',main = "Frequence Polygon for Delivery Time ",xlab = "D
elivery Time",ylab="Frequency",ylim =  c(0,max(freq)))
```


```
> 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 = "Cumalative Frequency Polygon for Delivery T
ime",xlab = "Delivery Time",ylab = "Cumulative Frequence",ylim = c(0,max(cum.fre
q)))
> cbind(Upper = breaks,cum.freq = new)
      Upper cum.freq
 [1,]    20        0
 [2,]    26        2
 [3,]    31        5
 [4,]    37       11
 [5,]    42       20
 [6,]    48       26
 [7,]    53       29
 [8,]    59       35
 [9,]    64       38
[10,]    70       40
>
```


Files
Plots
Packages
Help
Viewer
Presentation
Zoom
Export
Publish
Cumalative Frequency Polygon for Delivery Time
Cumulative Frequence
0
10
20
30
40
20
30
40
50
60
70
Delivery Time