IT24103558

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1. Import the dataset ('Exercise – Lab 05.txt') into R and store it in a data frame called "Delivery Times".

```
getwd()
setwd("C:\\Users\\IT24103558\\Desktop\\IT24103558")
```

```
> getwd()
[1] "C:/Users/IT24103558/Documents"
> setwd("C:\\Users\\IT24103558\\Desktop\\IT24103558")
```

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

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> Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep = ",")
> fix(Delivery_Times)
> attach(Delivery_Times)
```

2. Draw a histogram for deliver times using nine class intervals where the lower limit is 20 and upper limit is 70. Use right open intervals.

```
#Q2
names(Delivery_Times)<-c("X1")
attach(Delivery_Times)
histrogram <- hist(
  X1,
  main = "Histogram for Deliver times",
  breaks = seq(20, 70, length=10),
  right = FALSE)
```

```
> #Q2
> names(Delivery_Times)<-c("X1")
> attach(Delivery_Times)
> histrogram <- hist(
+    X1,
+    main = "Histogram for Deliver times",
+    breaks = seq(20, 70, length=10),
+    right = FALSE)
```

Histogram for Deliver times
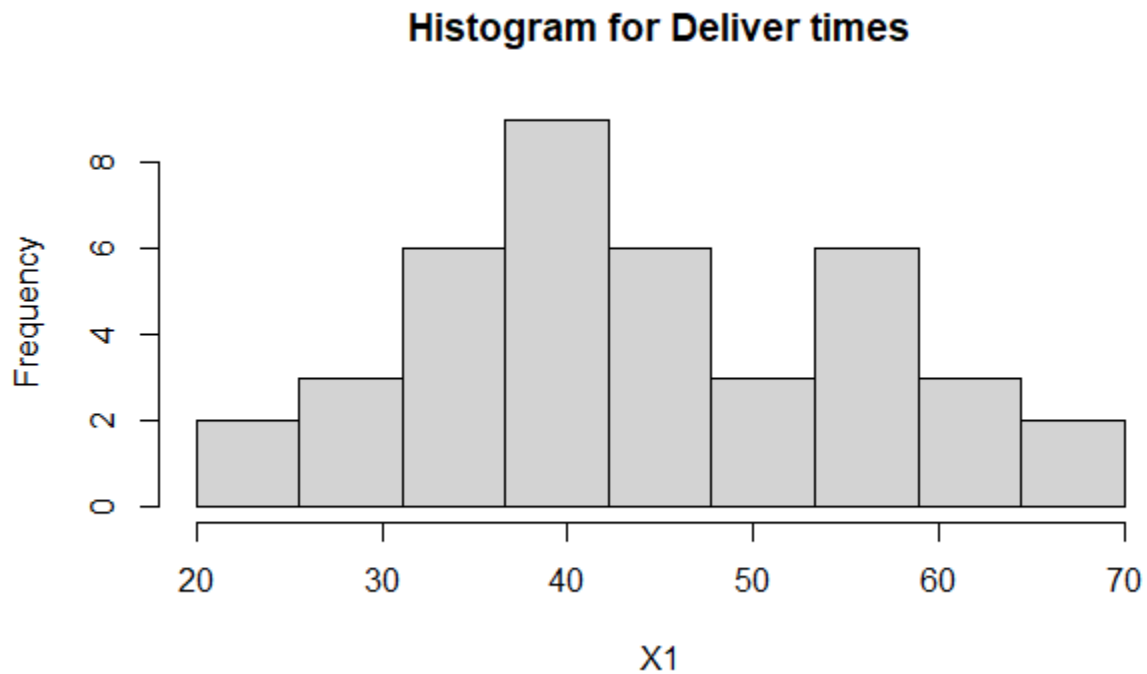
3. Comment on the shape of the distribution.

```
#Q3
#The distribution is approximately symmetric and bell-shaped, resembling a normal distribution
```

```
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> #The distribution is approximately symmetric and bell-shaped, resembling a normal distribution
```

4. Draw a cumulative frequency polygon (ogive) for the data in a separate plot.

```
#Q4
breaks <- round(histrogram$breaks)
breaks
freq <- histrogram$counts
freq
mids <- histrogram$mids
mids

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 deliver times",
      xlab = "Shareholders",
      ylab = "Cumulative Frequncy",
      ylim = c(0,max(cum.freq)))

cbind(Upper = breaks, CumFreq = new)
```

```
> #Q4
> breaks <- round(histrogram$breaks)
> breaks
 [1] 20 26 31 37 42 48 53 59 64 70
> freq <- histrogram$counts
> freq
[1] 2 3 6 9 6 3 6 3 2
> mids <- histrogram$mids
> mids
[1] 22.77778 28.33333 33.88889 39.44444 45.00000 50.55556 56.11111 61.66667 67.22222
>
```

```
> 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 deliver times",
+     xlab = "Shareholders",
+     ylab = "Cumulative Frequncy",
+     ylim = c(0,max(cum.freq)))
>
> cbind(Upper = breaks, CumFreq = new)

> cbind(Upper = breaks, CumFreq = new)
       Upper CumFreq
 [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
```

Cumalative Frequency Polygon for deliver times