

Probability and Statistics - IT2120

IT24103507

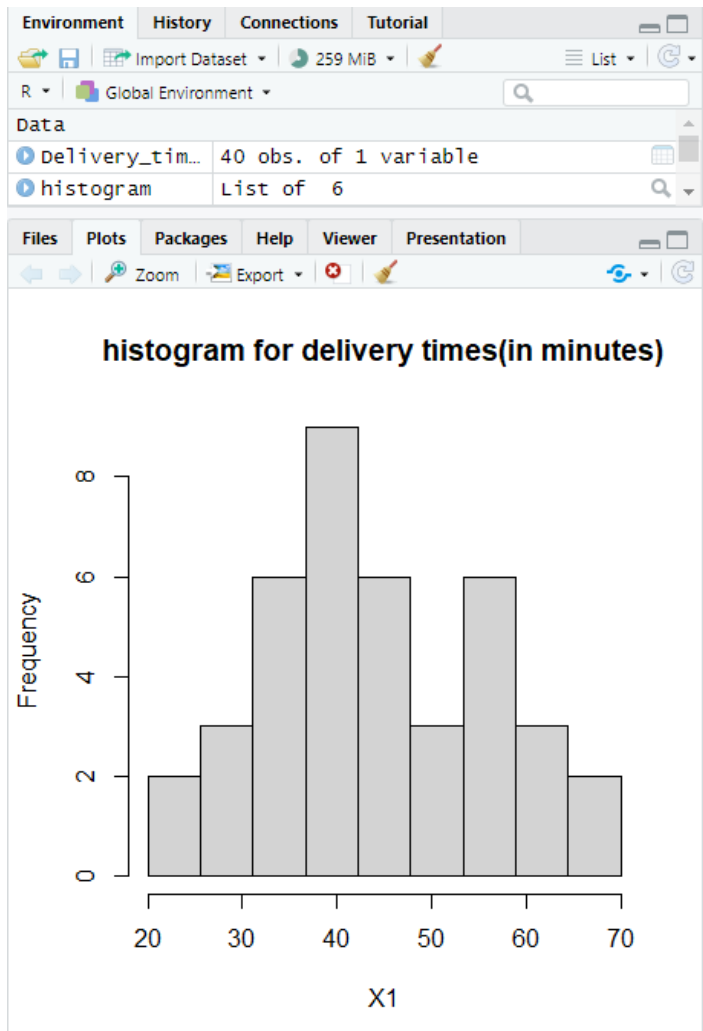
01, 02.

```
Untitled1* x
1 setwd("C:\\Users\\USER\\Downloads\\IT24103507_LAB_05")
2
3 #import the dataset
4 Delivery_times <- read.table("Exercise - Lab 05.txt", header = TRUE)
5 Delivery_times
6
7 #rename the column nam for easire access
8 names(Delivery_times) <- c("X1")
9 attach(Delivery_times)
10
11 #making a histogram
12 histogram <- hist(X1, main = "histogram for delivery times(in minutes)", breaks = seq(20, 70, length = 10), right = TRUE)
```

Console Terminal Background Jobs

R 4.5.1 · C:/Users/USER/Downloads/IT24103507_LAB_05/

```
> setwd("C:\\Users\\USER\\Downloads\\IT24103507_LAB_05")
> #import the dataset
> Delivery_times <- read.table("Exercise - Lab 05.txt", header = TRUE)
> Delivery_times
  Delivery_Time_.minutes.
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
20                     48
21                     52
22                     59
23                     35
24                     56
25                     32
26                     38
27                     54
28                     30
29                     43
30                     36
31                     42
32                     20
```



03.

```
14 #most of the delivery times are grouped around the middle range.  
15 #there are fewer deliveries at the low(20) and high(70)ends.  
16 #the delivery times are spread across a wide range, but mostly concentrated in one interval.  
17
```

04.

```

18 #assign class limits, frequencies and midpoints to variables
19 break_values <- round(histogram$breaks)
20 break_values
21
22 freq_values <- histogram$counts
23 freq_values
24
25
26 #cumulative frequency
27 cum_freq_values <- cumsum(freq_values)
28 cum_freq_values
29
30 new <- c()
31
32 for (i in 1:length(break_values)) {
33   if(i==1) {
34     new[i] = 0
35   } else {
36     new[i] = cum_freq_values[i-1]
37   }
38 }
39 plot(break_values, new, type = 'o', main = "cumulative frequency polygon for delivery times",
40       xlab = "delivery times(in mins)", ylab = "cumulative frequency", ylim = c(0,max(cum_freq_values)))

```

```

> #assign class limits, frequencies and midpoints to variables
> break_values <- round(histogram$breaks)
> break_values
[1] 20 26 31 37 42 48 53 59 64 70
> freq_values <- histogram$counts
> freq_values
[1] 2 3 6 9 6 3 6 3 2
> #cumulative frequency
> cum_freq_values <- cumsum(freq_values)
> cum_freq_values
[1] 2 5 11 20 26 29 35 38 40
> new <- c()
> for (i in 1:length(break_values)) {
+   if(i==1) {
+     new[i] = 0
+   } else {
+     new[i] = cum_freq_values[i-1]
+   }
+ }
> plot(break_values, new, type = 'o', main = "cumulative frequency polygon for delivery times",
+       xlab = "delivery times(in mins)", ylab = "cumulative frequency", ylim = c(0,max(cum_freq_values)))
> |

```

