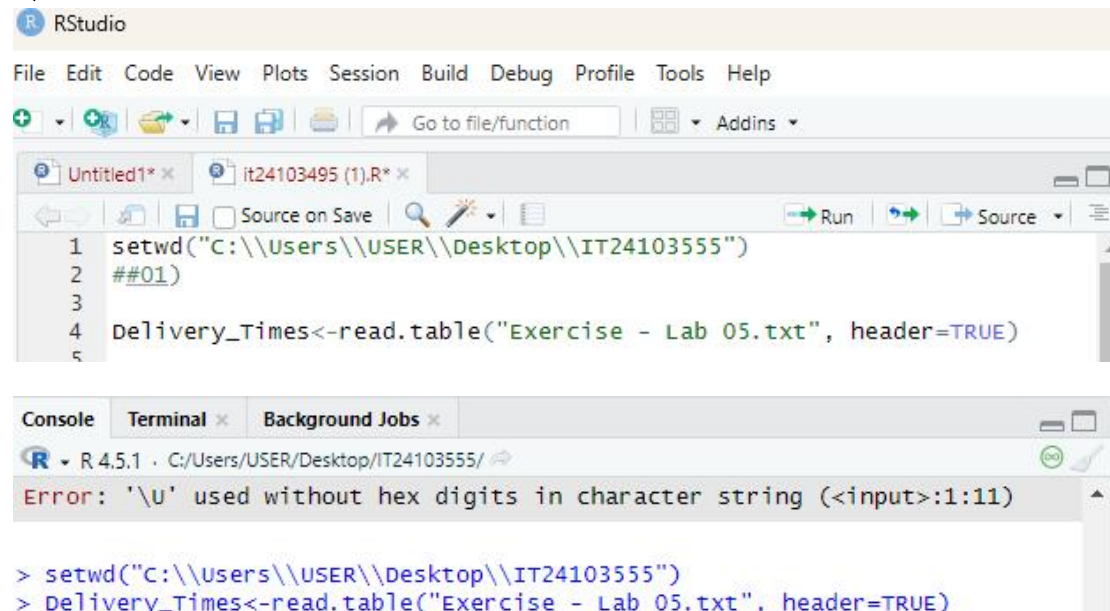


# IT2120 – Probability and Statistics

IT24103555

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1)



The screenshot shows the RStudio interface. The script editor contains the following code:

```
1 setwd("C:\\Users\\USER\\Desktop\\IT24103555")
2 ##01)
3
4 Delivery_Times<-read.table("Exercise - Lab 05.txt", header=TRUE)
5
```

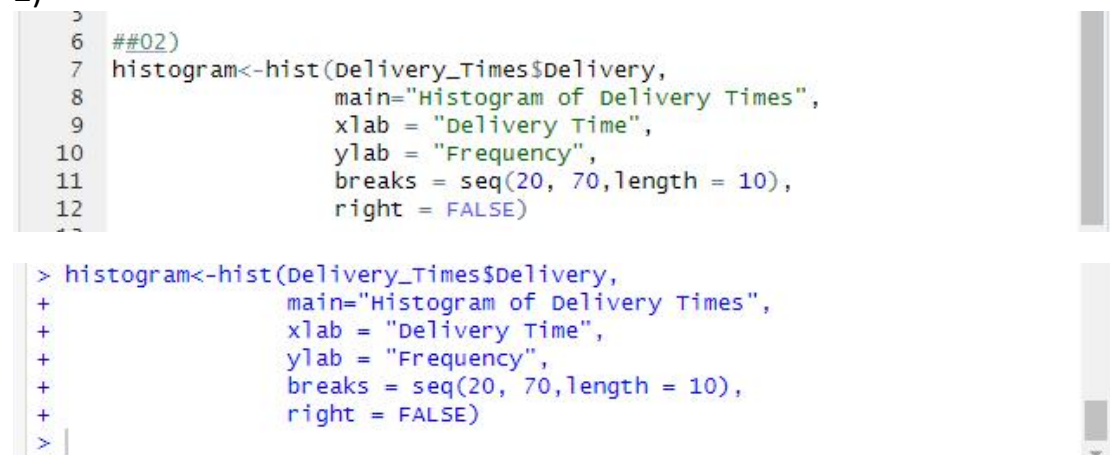
The console shows an error message:

```
Error: '\U' used without hex digits in character string (<input>:1:11)
```

Below the error, the code is repeated:

```
> setwd("C:\\Users\\USER\\Desktop\\IT24103555")
> Delivery_Times<-read.table("Exercise - Lab 05.txt", header=TRUE)
```

2)

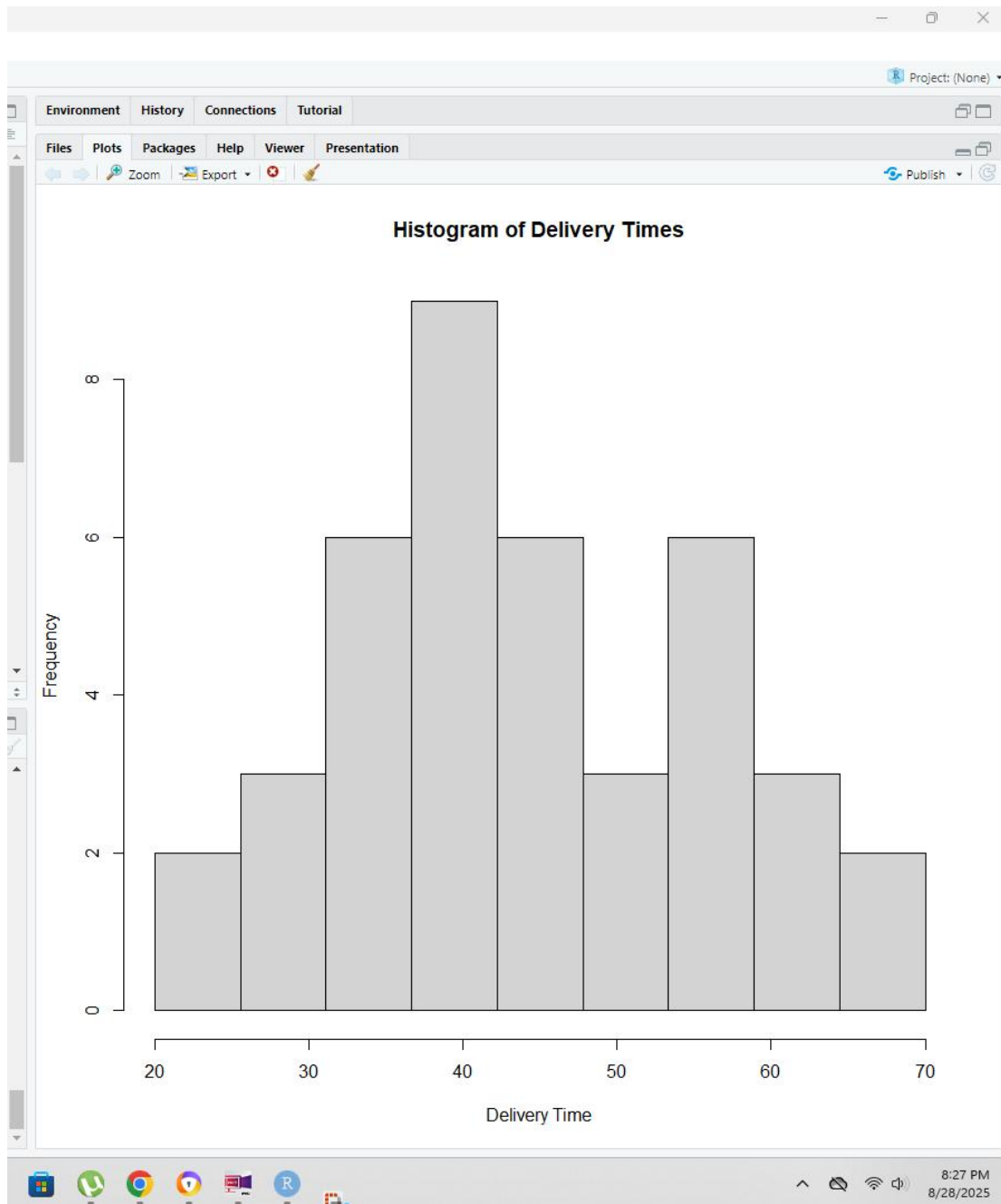


The screenshot shows the RStudio script editor with the following code:

```
3
4
5 ##02)
6 histogram<-hist(Delivery_Times$Delivery,
7                 main="Histogram of Delivery Times",
8                 xlab = "Delivery Time",
9                 ylab = "Frequency",
10                 breaks = seq(20, 70,length = 10),
11                 right = FALSE)
12
```

Below the script, the code is repeated in the console:

```
> histogram<-hist(Delivery_Times$Delivery,
+                 main="Histogram of Delivery Times",
+                 xlab = "Delivery Time",
+                 ylab = "Frequency",
+                 breaks = seq(20, 70,length = 10),
+                 right = FALSE)
>
```



03)

13

14 ##03)

15 ##The distribution is roughly symmetric with a peak around 40 minutes, but the right side is a little higher than the left.

16

04)

```
16
17 ##04)
18 breaks <- round(histogram$breaks)
19 freq <- histogram$counts
20
21 cum_freq <- cumsum(freq)
22
23 new <- c()
24
25 for(i in 1:length(breaks)) {
26   if(i == 1) {
27     new[i] = 0
28   } else {
29     new[i] = cum_freq[i-1]
30   }
31 }
32
33 plot(breaks, new, type = "l", main = "Cumulative Frequency Polygon (ogive) for Delivery Times", xlab = "Delivery Time (minutes) - Upper Class Limit", ylab = "Cumulative Frequency", ylim = c(0, max(new)))
34
35
```

26/15 (Top Level) ↕

R Scrip

26/15 (Top Level) ↕

R Script

Console Terminal Background Jobs

R • R 4.5.1 • C:/Users/USER/Desktop/IT24103555/ ↗

```
##04)
breaks"
```

```
> ##04)
> breaks <- round(histogram$breaks)
> freq <- histogram$counts
>
> 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 (ogive) for Delivery Times", xlab = "Delivery Time (minutes) - Upper Class Limit", ylab = "Cumulative Frequency", ylim = c(0, max(new)))
> |
```

