

IT2120 - Probability and Statistics

Lab Sheet 05

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Exercise

Instructions: Create a folder in your desktop with your registration number (Eg: "IT....."). You need to save the R script file and take screenshots of the command prompt with answers and save it in a word document inside the folder. Save both R script file and word document with your registration number (Eg: "IT....."). After you finish the exercise, zip the folder and upload the zip file to the submission link.

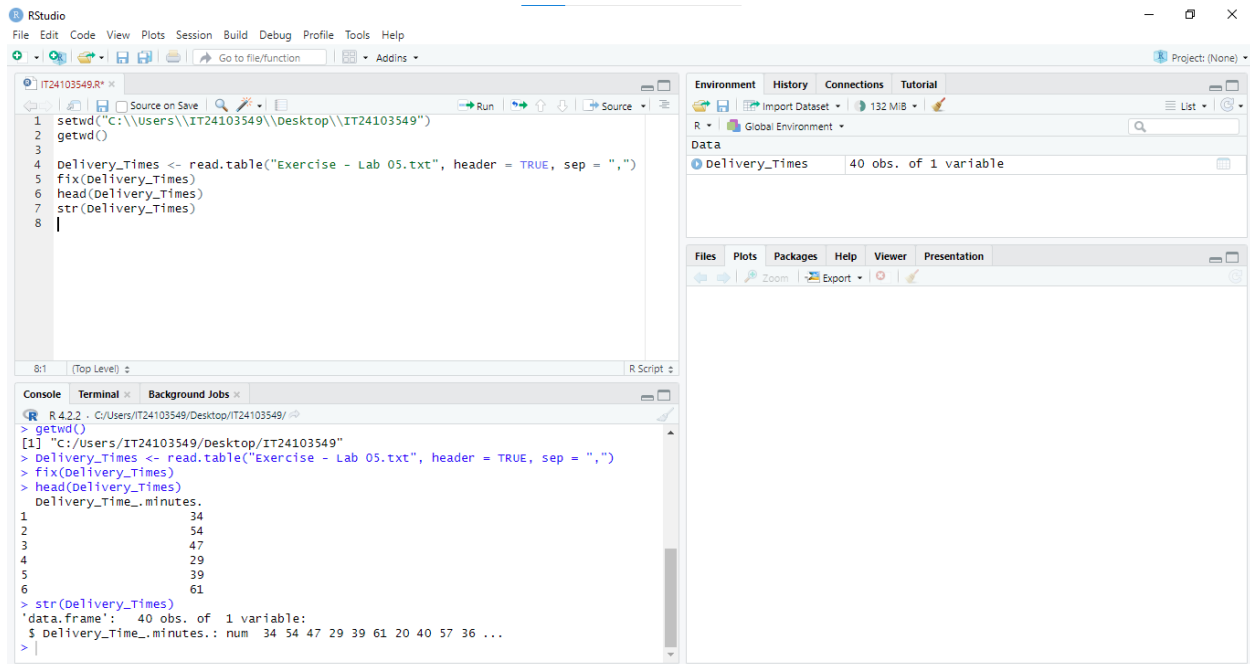
1. Import the dataset ('Exercise – Lab 05.txt') into R and store it in a data frame called "Delivery_Times".

The screenshot displays the RStudio interface. The script editor on the left contains the following R code:

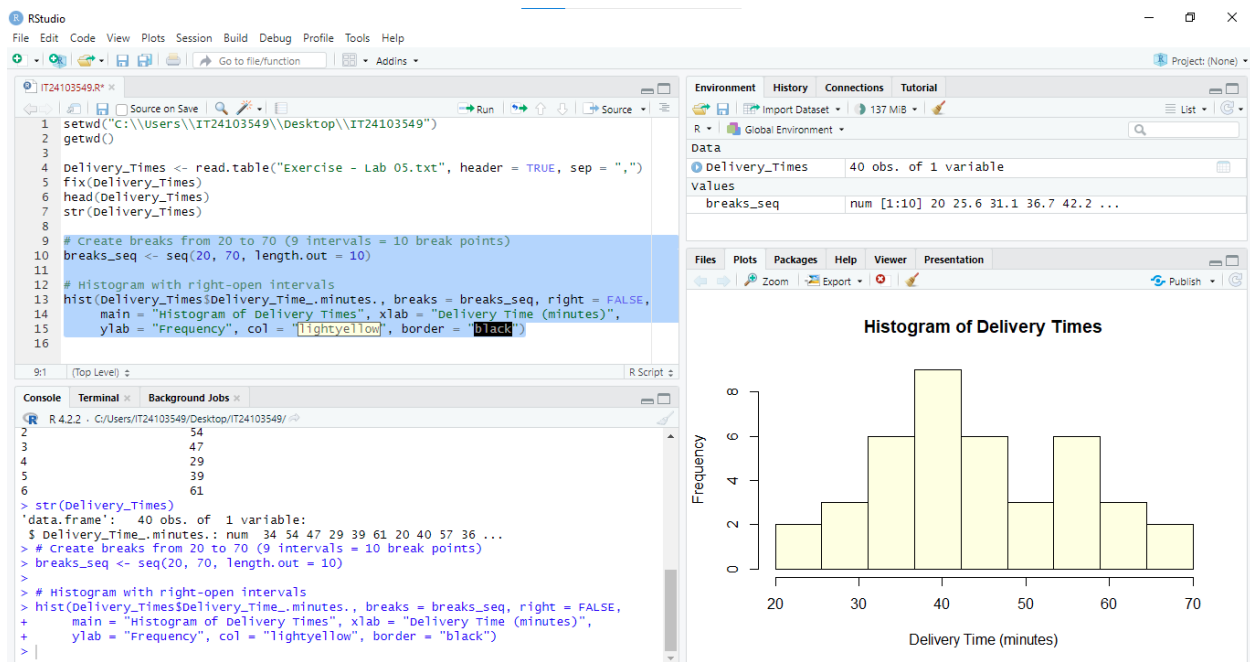
```
1 setwd("C:\\Users\\IT24103549\\Desktop\\IT24103549")
2 getwd()
3
4 Delivery_Times <- read.table("Exercise - Lab 05.txt", header = TRUE, sep = ",")
5 fix(Delivery_Times)
6 head(Delivery_Times)
7 str(Delivery_Times)
```

The console on the bottom left shows the execution of these commands, including the directory path and the structure of the data frame. The Environment pane on the right shows the 'Delivery_Times' data frame with 40 observations of 1 variable. The Data Editor window on the bottom right shows the first 19 rows of the data frame, with columns 'Delivery_Time_minutes', 'var2', 'var3', 'var4', and 'var5'.

| | 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 | | | | |



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.



3. Comment on the shape of the distribution.

```
#Q3)
#Based on the histogram:
#The distribution appears to be right-skewed (positively skewed).
#Most delivery times are concentrated in the lower intervals (closer to 20-40 minutes).
#A few higher delivery times extend the tail to the right.
```

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

