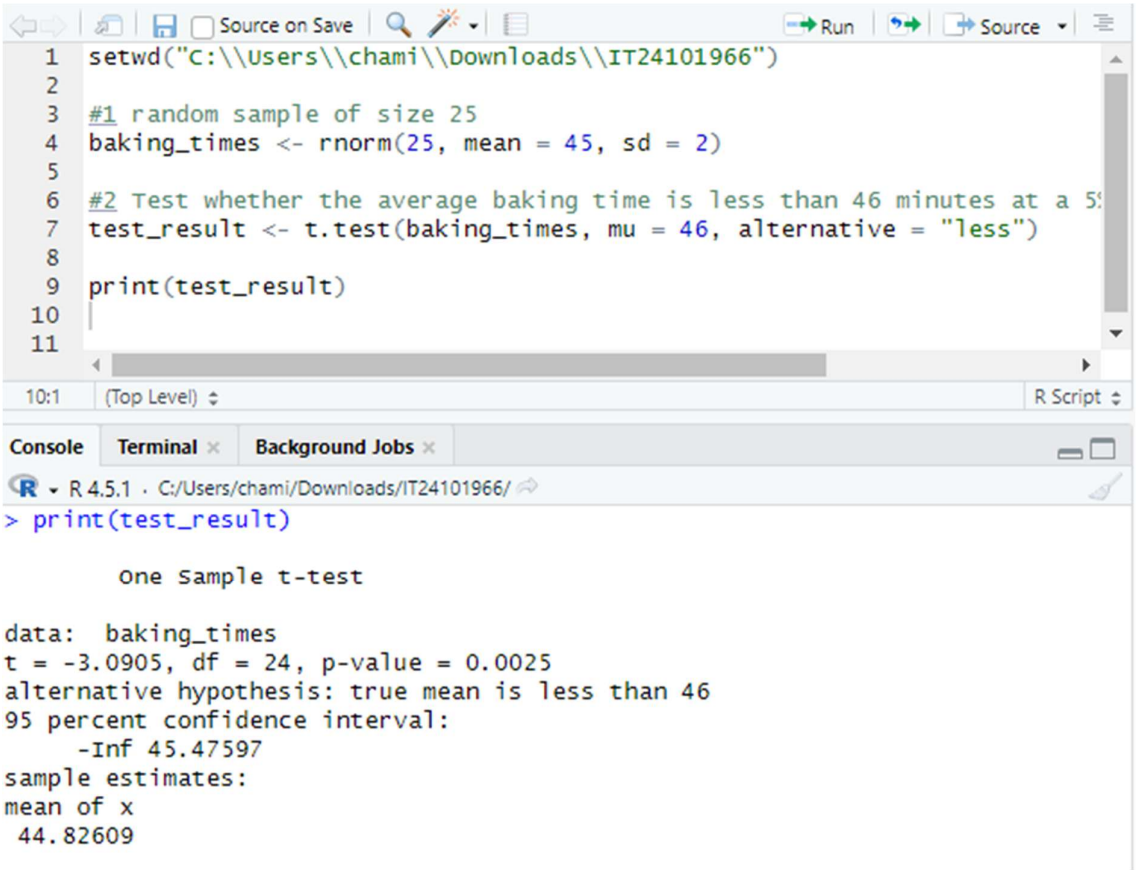
Exercise

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. Assume that the time taken to bake a batch of cookies is normally distributed with mean 45 minutes and standard deviation 2 minutes.

   i. Generate a random sample of size 25 for the baking time.

   ii. Test whether the average baking time is less than 46 minutes at a 5% level of significance.



```
Source on Save | Run | Source

1  setwd("C:\\Users\\chami\\Downloads\\IT24101966")
2
3  #1 random sample of size 25
4  baking_times <- rnorm(25, mean = 45, sd = 2)
5
6  #2 Test whether the average baking time is less than 46 minutes at a 5
7  test_result <- t.test(baking_times, mu = 46, alternative = "less")
8
9  print(test_result)
10
11

10:1  (Top Level)  R Script

Console  Terminal  Background Jobs
R 4.5.1 · C:/Users/chami/Downloads/IT24101966/
> print(test_result)

        One Sample t-test

data:  baking_times
t = -3.0905, df = 24, p-value = 0.0025
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
     -Inf 45.47597
sample estimates:
mean of x
 44.82609
```