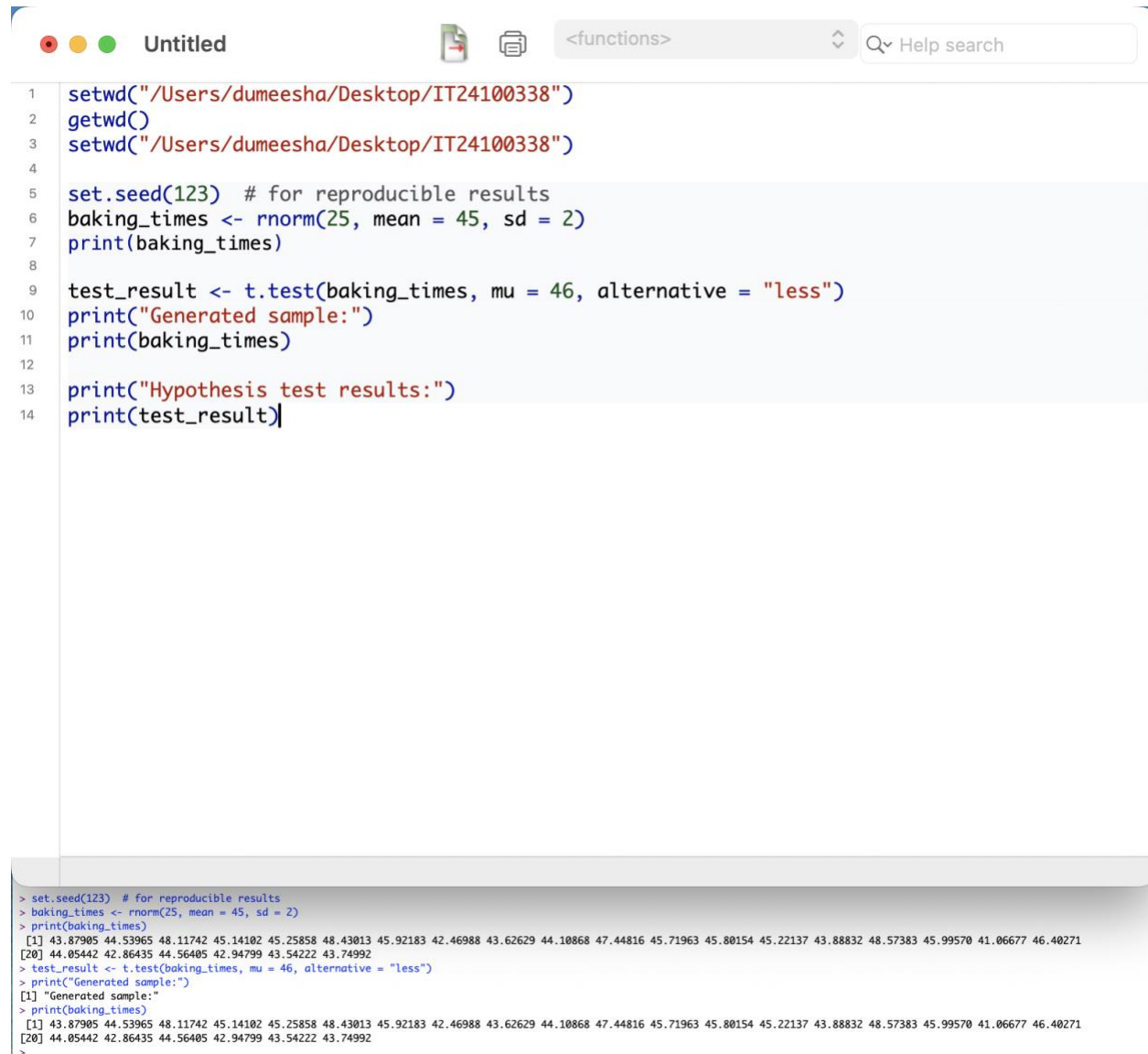


## Exercise

1

I.



The screenshot shows an RStudio window titled "Untitled". The editor pane contains the following R code:

```
1 setwd("/Users/dumeesha/Desktop/IT24100338")
2 getwd()
3 setwd("/Users/dumeesha/Desktop/IT24100338")
4
5 set.seed(123) # for reproducible results
6 baking_times <- rnorm(25, mean = 45, sd = 2)
7 print(baking_times)
8
9 test_result <- t.test(baking_times, mu = 46, alternative = "less")
10 print("Generated sample:")
11 print(baking_times)
12
13 print("Hypothesis test results:")
14 print(test_result)
```

The console pane shows the output of the code:

```
> set.seed(123) # for reproducible results
> baking_times <- rnorm(25, mean = 45, sd = 2)
> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383 45.99570 41.06677 46.40271
[20] 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
> test_result <- t.test(baking_times, mu = 46, alternative = "less")
> print("Generated sample:")
[1] "Generated sample:"
> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383 45.99570 41.06677 46.40271
[20] 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
>
```

II.

```

9 test_result <- t.test(baking_times, mu = 46, alternative = "less")
10 print("Generated sample:")
11 print(baking_times)
12
13 print("Hypothesis test results:")
14 print(test_result)

```

R Console

STOP

~/Desktop/IT24100338

Q

Help Search

```

> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383 45.99570 41.06677 46.40271
[20] 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
>
> print("Hypothesis test results:")
[1] "Hypothesis test results:"
> print(test_result)

One Sample t-test

data:  baking_times
t = -2.8167, df = 24, p-value = 0.004776
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
 -Inf 45.58124
sample estimates:
mean of x
44.93334

> set.seed(123) # for reproducible results
> baking_times <- rnorm(25, mean = 45, sd = 2)
> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383 45.99570 41.06677 46.40271
[20] 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
> test_result <- t.test(baking_times, mu = 46, alternative = "less")
> print("Generated sample:")
[1] "Generated sample:"
> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383 45.99570 41.06677 46.40271
[20] 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
>
> print("Hypothesis test results:")
[1] "Hypothesis test results:"
> print(test_result)

One Sample t-test

data:  baking_times
t = -2.8167, df = 24, p-value = 0.004776
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
 -Inf 45.58124
sample estimates:
mean of x
44.93334

```