

IT24103507_PS_LAB_09

```
PS_IT24103507_LAB_09.R x
Source on Save
1 setwd("C:\\Users\\USER\\Downloads\\IT24103507")
2
3 set.seed(123)
4 sample_data <- rnorm(25, mean =45, sd=2)
5 sample_data
6
7 test_result <- t.test(sample_data, mu = 46, alternative = "less")
8 test_result
9
10 t_value <- test_result$statistic
11 p_value <- test_result$p.value
12
13 conf_interval <- test_result$conf.int
14
15 cat("Test statistic (t):", t_value )
16 cat("P-value:", p_value )
17 cat("Confidence Interval:", conf_interval )
18
18:1 (Top Level) ↕
```

Source

Console Terminal Background Jobs

```
R v 4.5.1 - C:/Users/USER/Downloads/IT24103507/
> setwd("C:\\Users\\USER\\Downloads\\IT24103507")
> set.seed(123)
> sample_data <- rnorm(25, mean =45, sd=2)
> sample_data
[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
[16] 48.57383 45.99570 41.06677 46.40271 44.05442 42.86435 44.56405 42.94799 43.54222 43.74992
> test_result <- t.test(sample_data, mu = 46, alternative = "less")
> test_result

One Sample t-test

data: sample_data
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

> t_value <- test_result$statistic
> p_value <- test_result$p.value
> conf_interval <- test_result$conf.int
> cat("Test statistic (t):", t_value )
Test statistic (t): -2.81669
> cat("P-value:", p_value )
P-value: 0.004775633
> cat("Confidence Interval:", conf_interval )
Confidence Interval: -Inf 45.58124
```