Sri Lanka Institute of Information Technology

Lab Submission
Worksheet No 09

IT241012242

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Probability and Statistics | IT2120

B.Sc. (Hons) in Information Technology

```
> setwd("C:\\Users\\venur\\OneDrive\\Desktop\\SLIIT\\year 2\\sem 1\\PS\\labs\\lab 9")
> baking_time <- rnorm(25, mean = 45, sd = 2)
> baking_time
 [1] 46.50459 44.57658 44.80667 44.05958 46.74461 44.17266 45.52760 43.18757 46.86349 49.06103
[11] 45.63132 44.64559 46.44507 44.85980 45.61538 44.67398 42.67646 44.88029 41.62329 42.42329
[21] 39.64909 42.59707 45.76680 44.96932 45.75849
> t_test_result <- t.test(baking_time, mu = 46, alternative = "less")
> t_test_result

        One Sample t-test

data:  baking_time
t = -3.3221, df = 24, p-value = 0.001427
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
     -Inf 45.37377
sample estimates:
mean of x
 44.70878

> t_statistic <- t_test_result$statistic
> p_value <- t_test_result$p.value
> conf_interval <- t_test_result$conf.int
> t_statistic
        t
-3.322056
> p_value
[1] 0.001426972
> conf_interval
[1]      -Inf 45.37377
attr(,"conf.level")
[1] 0.95
```