

IT2120- Probability and Statistics

Lab Sheet 09

Statistical Inference

Exercise:

```
Console Terminal Background Jobs
R 4.5.1 · C:/Users/Adithya Edirisinghe/AppData/Local/Microsoft/Windows/INetCache/IE/X3SKBY41/

> # Question 01
> # (i)
> set.seed(123)
> sample_size <- 25
> mu <- 45
> sigma <- 2
>
> baking_times <- rnorm(sample_size, mean = mu, sd = sigma)
> print(baking_times)
[1] 43.87905 44.53965 48.11742 45.14102 45.25858 48.43013 45.92183
[8] 42.46988 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137
[15] 43.88832 48.57383 45.99570 41.06677 46.40271 44.05442 42.86435
[22] 44.56405 42.94799 43.54222 43.74992
>
```

```
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>
> # (ii)
> t_test_result <- t.test(baking_times, mu = 46, alternative = "less")
> print(t_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
```