

IT24100636

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PS Lab 09

```
setwd("C:\\Users\\imasha\\Desktop\\IT24100636_PS_09")
getwd()
```

```
> setwd("C:\\Users\\imasha\\Desktop\\IT24100636_PS_09")
> getwd()
[1] "C:/Users/imasha/Desktop/IT24100636_PS_09"
```

```
# 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)
```

```
> 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 42.46988
 [9] 43.62629 44.10868 47.44816 45.71963 45.80154 45.22137 43.88832 48.57383
[17] 45.99570 41.06677 46.40271 44.05442 42.86435 44.56405 42.94799 43.54222
[25] 43.74992
```

```
# (ii)
```

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

```
> 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
```