

# Probability and Statistics - IT2120

IT24102395 - Ayodhya M.A.H.A

```
IT24102395_Lab_09.R x
Source on Save
Run
Source

1 #Exercise
2 #mean 45 minutes and standard deviation 2 minutes
3
4 #i) Generate a random sample of size 25 for the baking time.
5 y <- rnorm (25, mean = 45, sd = 2)
6 print(y)
7
8 #ii) Test whether the average baking time is less than 46 minutes at a 5% level of significance
9 #H0: mu >= 46
10 #H1: mu < 46
11 t.test(y, mu = 46, alternative = "less")
12
```

12:1 (Top Level) R Script

Console Terminal Background Jobs

R 4.5.1 ~/

```
> y <- rnorm (25, mean = 45, sd = 2)
> print(y)
[1] 44.67227 46.67417 44.57313 43.60685 45.70184 43.78758 50.63736 43.04379 42.96733
44.79581 47.30086 42.36353 46.13478
[14] 46.76200 41.73726 44.00122 43.82525 45.95943 46.49717 47.34565 43.34495 42.29135
45.47009 44.98302 45.24073
> #H0: mu >= 46
> #H1: mu < 46
> t.test(y, mu = 46, alternative = "less")

One Sample t-test

data: y
t = -2.6367, df = 24, p-value = 0.007226
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
 -Inf 45.63087
sample estimates:
mean of x
 44.9487

>
```

Environment History Connections Tutorial

Import Dataset 150 MiB List

R Global Environment

Values

y	num [1:25] 44.7 46.7 44.6 43.6 45.7 ...
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