Sri Lanka Institute of Information Technology

Lab Submission
<Lab sheet 09>

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Probability and Statistics| IT2120

B.Sc. (Hons) in Information Technology

Exercise

1. Assume that the time taken to bake a batch of cookies is normally distributed with mean 45 minutes and standard deviation of 2 minutes.

i. Generate a random sample of size 25 for the baking time.

```
#i. Generate a random sample of size 25 for the baking time.
set.seed(123)
y<- rnorm(25,mean=45,sd=2)
```

Values	
y	num [1:25] 43.9 44.5 48.1 45.1 45.3 ...

ii. Test whether the average baking time is less than 46 minutes at a 5% level of significance.

```
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t.test(y,mu=46,alternative="less")
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        One Sample t-test

data:  y
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
```