IT24103927

Hettiarachchi H.S.A

IT2120 - Probability and Statistics

Lab Sheet 9

Exercise

Part 1

```r
#Part_01

set.seed(123)
sample_data <- rnorm(25, mean = 45, sd = 2)
sample_data

```

```
> #Part_01
>
> set.seed(123)
> sample_data <- rnorm(25, mean = 45, sd = 2)
> sample_data
 [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
```

Part 2

```r
#Part_02

t.test(sample_data, mu = 46, alternative = "less", conf.level = 0.95)
```

```
> #Part_02
>
> t.test(sample_data, mu = 46, alternative = "less", conf.level = 0.95)

        One Sample t-test

data:  sample_data
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
```