Sri Lanka Institute of Information Technology

Lab Submission
<Lab 08>

<IT24104099>

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Probability and Statistics - IT2120

B.Sc. (Hons) in Information Technology

```
>
> data <-read.table("Exercise - LaptopsWeights.txt" ,header = TRUE)
> fix(data)
> attach(data)
```

```
> popmn  <- mean(Weight.kg.)
> popmn
[1] 2.468
> popvar <- var (Weight.kg.)
> popvar
[1] 0.06559077
> popmn  <- mean(Weight.kg.)
> popmn
[1] 2.468
> popvar <- var (Weight.kg.)
> popvar
[1] 0.06559077
```

```
> samples <- c()
> n <- c()
>
> for(i in 1:25){
+   s <- sample(Weight.kg.,6,replace = TRUE)
+   samples <- cbind(samples,s)
+   n <- c(n , paste('s' , i))
+ }
>
> colnames(samples) = n
>
> s.means <- apply(samples ,2, mean)
> s.means
     s 1      s 2      s 3      s 4      s 5      s 6      s 7      s 8      s 9     s 10     s 11     s 12     s 13
2.430000 2.628333 2.400000 2.450000 2.525000 2.485000 2.506667 2.436667 2.471667 2.596667 2.365000 2.370000 2.460000
    s 14     s 15     s 16     s 17     s 18     s 19     s 20     s 21     s 22     s 23     s 24     s 25
2.576667 2.558333 2.223333 2.323333 2.590000 2.390000 2.573333 2.315000 2.343333 2.438333 2.515000 2.648333
> s.vars <- apply(samples , 2 , var)
> s.vars
       s 1         s 2         s 3         s 4         s 5         s 6         s 7         s 8         s 9
0.068240000 0.015736667 0.094640000 0.073280000 0.081230000 0.040830000 0.154866667 0.064226667 0.073496667
      s 10        s 11        s 12        s 13        s 14        s 15        s 16        s 17        s 18
0.027506667 0.038750000 0.147720000 0.050280000 0.046386667 0.078896667 0.151266667 0.163306667 0.037480000
      s 19        s 20        s 21        s 22        s 23        s 24        s 25
0.041920000 0.008586667 0.116110000 0.153186667 0.094376667 0.078230000 0.015816667
`
```

```
>
> samplemean <- mean(s.means)
> samplemean
[1] 2.4648
> samplevars <- var(s.means)
> samplevars
[1] 0.01175355
>
```