

Sri Lanka Institute of Information Technology



Lab Submission
<Lab sheet No.08>

<IT24101023>

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B.Sc. (Hons) in Information Technology

```

1 setwd("C:\\Users\\IT24101023\\Downloads\\Lab 08-20250926")
2
3
4 data <- read.table("Exercise - Laptopsweights.txt", header = TRUE)
5
6
7 fix(data)
8
9 attach(data)

```

```

>
> data <- read.table("Exercise - Laptopsweights.txt", header = TRUE)
>
>
> fix(data)
>
> attach(data)
>
>
> popmn <- mean(weight.kg.)
> popvar <- var(weight.kg.)
> print(popmn)
[1] 2.468
> print(popvar)
[1] 0.06559077

```

```

7 samples <- c()
8
9
10 n <- c()
11 for(i in 1:25) {
12   s <- sample(weight.kg., 5, replace = TRUE)
13   samples <- cbind(samples, s)
14   n <- c(n, paste('s', i))
15 }
16

```

```

> samples <- c()
>
>
> n <- c()
> for(i in 1:25) {
+   s <- sample(weight.kg., 5, replace = TRUE)
+   samples <- cbind(samples, s)
+   n <- c(n, paste('s', i))
+ }
>

```

```

26
27 colnames(samples) = n
28
29 s.means <- apply(samples, 2, mean)
30 s.sd <- apply(samples, 2, sd)
31 print(s.means)
32 print(s.sd)
33
34 samplemean<-mean(s.means)
35 samplesd<-sd(s.means)
36 samplemean
37 samplesd
38
39 popsd<-sd(weight.kg.)
40 popsd
41

```

```

>
> colnames(samples) = n
>
> s.means <- apply(samples, 2, mean)
> s.sd <- apply(samples, 2, sd)
> print(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 s 14 s 15 s 16 s 17 s 18 s 19 s 20
2.444 2.434 2.444 2.374 2.568 2.558 2.530 2.450 2.350 2.486 2.356 2.608 2.362 2.508 2.388 2.632 2.638 2.532 2.590 2.476
 s 21 s 22 s 23 s 24 s 25
2.556 2.374 2.492 2.596 2.478
> print(s.sd)
 s 1 s 2 s 3 s 4 s 5 s 6 s 7 s 8 s 9 s 10 s 11 s 12
0.4212838 0.2173246 0.4462959 0.3287552 0.1967740 0.3130016 0.1960867 0.2411431 0.2425902 0.1932097 0.3649384 0.1921458
 s 13 s 14 s 15 s 16 s 17 s 18 s 19 s 20 s 21 s 22 s 23 s 24
0.3908580 0.2225309 0.2229798 0.2254329 0.1951154 0.1874033 0.2885308 0.1422322 0.2286482 0.5183917 0.1190378 0.3337364
 s 25
0.2184491
.

```

```

40 popsd
41
42 se<-popsd/sqrt(5)
43 se
44 popsd
45 samplesd
46
47 popmn
48 samplemean
49

```

```
>
> samplemean<-mean(s.means)
> samplesd<-sd(s.means)
> samplemean
[1] 2.48896
> samplesd
[1] 0.09049331
>
> popsd<-sd(weight.kg.)
> popsd
[1] 0.2561069
>
> se<-popsd/sqrt(5)
> se
[1] 0.1145345
> popsd
[1] 0.2561069
> samplesd
[1] 0.09049331
>
> popmn
[1] 2.468
> samplemean
[1] 2.48896
> |
```