

IT24100220

N.Sanujan

```
lab08_PS.R x
Source on Save
Run

1 setwd("C:\\Users\\it24100220\\Desktop\\it24100220")
2 getwd()
3
4 weights <- scan("Exercise - Laptopsweights.txt", skip=1)
5
6 #1
7 pop_mean <- mean(weights)
8 pop_sd <- sqrt(mean((weights - pop_mean)^2))
9
10 pop_mean
11 pop_sd
12
13 #2
14 set.seed(123)
15 sample_means <- numeric(25)
16 sample_sds <- numeric(25)
17 for (i in 1:25) {
18   sample_i <- sample(weights, size = 6, replace = TRUE)
19   sample_means[i] <- mean(sample_i)
20   sample_sds[i] <- sd(sample_i)
21 }
22
23 sample_means
24 sample_sds
25
26 #3
27 mean_of_sample_means <- mean(sample_means)
28 sd_of_sample_means <- sd(sample_means)
29
30 mean_of_sample_means
31 sd_of_sample_means
32

24:11 (Top Level) ↓
```

Console Terminal Background Jobs

R 4.2.2 · C:/Users/it24100220/Desktop/it24100220/

```
> #1
> pop_mean <- mean(weights)
> pop_sd <- sqrt(mean((weights - pop_mean)^2))
>
> pop_mean
[1] 2.468
> pop_sd
[1] 0.2528853
> #2
> set.seed(123)
> sample_means <- numeric(25)
> sample_sds <- numeric(25)
> for (i in 1:25) {
+   sample_i <- sample(weights, size = 6, replace = TRUE)
+   sample_means[i] <- mean(sample_i)
+   sample_sds[i] <- sd(sample_i)
+ }
>
```

```
R 4.2.2 · C:/Users/it24100220/Desktop/it24100220/
> #1
> pop_mean <- mean(weights)
> pop_sd <- sqrt(mean((weights - pop_mean)^2))
>
> pop_mean
[1] 2.468
> pop_sd
[1] 0.2528853
> #2
> set.seed(123)
> sample_means <- numeric(25)
> sample_sds <- numeric(25)
> for (i in 1:25) {
+   sample_i <- sample(weights, size = 6, replace = TRUE)
+   sample_means[i] <- mean(sample_i)
+   sample_sds[i] <- sd(sample_i)
+ }
>
> sample_means
[1] 2.530000 2.573333 2.473333 2.591667 2.456667 2.401667 2.590000 2.466667
[9] 2.401667 2.335000 2.586667 2.378333 2.381667 2.465000 2.485000 2.451667
[17] 2.385000 2.338333 2.428333 2.551667 2.538333 2.466667 2.470000 2.448333
[25] 2.475000
> sample_sds
[1] 0.1513935 0.1191078 0.1718914 0.1345239 0.2749303 0.2544340 0.2167026
[8] 0.4530195 0.2230172 0.3237746 0.1706068 0.3235686 0.2993604 0.2314951
[15] 0.1745566 0.2762909 0.2042303 0.2436733 0.2481465 0.2654367 0.1708118
[22] 0.2451666 0.2405826 0.2792430 0.2358601
> #3
> mean_of_sample_means <- mean(sample_means)
> sd_of_sample_means <- sd(sample_means)
>
> mean_of_sample_means
[1] 2.4668
> sd_of_sample_means
[1] 0.07624874
> |
```