

## IT2120 - Probability and Statistics

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```
> data<- read.table("Exercise - Laptopsweights.txt" , header = TRUE)
> fix(data)
> attach(data)
The following object is masked from data (pos = 3):
    weight.kg.
The following object is masked from data (pos = 4):
    weight.kg.
The following object is masked from data (pos = 5):
    weight.kg.
```

### Exercise 1

```
> #Q1
> pop_mean <- mean(weight.kg.)
> pop_sd <- sd(weight.kg.)
```

### Exercise 2

```
> #Q2
> samples <- c()
> sample_names <- c()
> for(i in 1:25) {
+   s <- sample(weight.kg., 6, replace=TRUE)
+   samples <- cbind(samples, s)
+   sample_names <- c(sample_names, paste("s", i))
+ }
> colnames(samples) <- sample_names
```

### Exercise 3

```
> #Q3
> sample_means <- apply(samples, 2, mean)
> sample_sds <- apply(samples, 2, sd)
> mean_of_sample_means <- mean(sample_means)
> sd_of_sample_means <- sd(sample_means)
> n
```

Output

```
> pop_mean  
[1] 2.468  
> pop_sd  
[1] 0.2561069  
> mean_of_sample_means  
[1] 2.488733  
> sd_of_sample_means  
[1] 0.09304803
```