

IT24102307-Dewmith H. L.T.P.

```
> getwd()
[1] "C:/Users/msi/AppData/Local/Microsoft/windows/INetCache/IE/0N0F8NUV"
> setwd("C:\\Users\\msi\\Desktop\\Sliit Uni\\2 YR 1 Sem\\Probability and Statistics - IT2120\\Labs\\Lab 8")
> getwd()
[1] "C:/Users/msi/Desktop/Sliit Uni/2 YR 1 Sem/Probability and Statistics - IT2120/Labs/Lab 8"
>
> #importing the data set
> data <- read.table("Exercise - Laptopsweights.txt", header=TRUE)
> fix(data)
> attach(data)
>
> #Q1
> popmn <- mean(weight.kg.)
> popmn
[1] 2.468
>
> popvar <- var(weight.kg.)
> popvar
[1] 0.06559077
>
> popsd <- sqrt(popvar)
> popsd
[1] 0.2561069
>
> #Q2
> samples<-c()
> n<-c()
>
> for (i in 1:25){
+   s<-sample(weight.kg.,6,replace=TRUE)
+   samples<-cbind(samples,s)
+   n<-c(n,paste0('s',i))
+ }
> colnames(samples)=n
>
> s.means <- apply(samples, 2, mean)
> s.sds <- apply(samples, 2, sd)
>
```

```

> print(s.means <- apply(samples,2,mean))
      s1      s2      s3      s4      s5      s6      s7      s8      s9      s10
2.521667 2.525000 2.493333 2.533333 2.508333 2.453333 2.568333 2.391667 2.646667 2.456667
      s11      s12      s13      s14      s15      s16      s17      s18      s19      s20
2.401667 2.451667 2.721667 2.560000 2.351667 2.478333 2.420000 2.638333 2.538333 2.458333
      s21      s22      s23      s24      s25
2.478333 2.610000 2.381667 2.450000 2.476667
> print(s.sds <- sd(s.sds))
[1] 0.07840902
>
> #Q3
> print(true.mean <- mean(s.means))
[1] 2.5006
> print(true.sd <- sd(s.sds))
[1] NA
>
> popmn
[1] 2.468
> true.mean
[1] 2.5006
>
> popsd
[1] 0.2561069
> true.sd
[1] NA
> |

```