

## Lab sheet 08

ID No: IT24101677

```
1 setwd("C:\\Users\\IT24101677\\Desktop\\Lab8")
2 getwd()
3
4 data<-read.table("Exercise - Laptopsweights.txt", header=TRUE)
5 fix(data)
6 attach(data)
7
8 #1
9 popmn<-mean(data$weight.kg.)
10 popsd<-sd(data$weight.kg.)
11
12 cat("Population mean:",popmn, "\n")
13 cat("Population standard deviation: ",popsd,"\n")
14
15 #2
16 samples<-c()
17 n<-c()
18
19 for(i in 1:25){
20   s<-sample(weight.kg.,6,replace=TRUE)
21   samples<-cbind(samples,s)
22   n<-c(n,paste0('s',i))
23 }
24 colnames(samples)=n
25
26 print(s.means<-apply(samples,2,mean))
27 print(s.sds<-apply(samples,2,sd))
28
```

```
29 #3
30 print(truemean<-mean(s.means))
31 print(truesd<-sd(s.sds))
32
33 popmn
34 truemean
35
36 popsd
37 truesd
38
```

```

Console Terminal Background Jobs
R 4.2.2 · C:/Users/IT24101677/Desktop/Lab8/
> setwd("C:\\Users\\IT24101677\\Desktop\\Lab8")
> getwd()
[1] "C:/Users/IT24101677/Desktop/Lab8"
> data<-read.table("Exercise - Laptopsweights.txt", header=TRUE)
> fix(data)
> attach(data)
The following object is masked from data (pos = 3):
  weight.kg.

```

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> #1
> popmn<-mean(data$weight.kg.)
warning message:
In mean.default(data$weight.kg.) :
  argument is not numeric or logical: returning NA
> popsd<-sd(data$weight.kg.)
> cat("Population mean:",popmn, "\n")
Population mean: NA
> cat("Population standard deviation: ",popsd,"\n")
Population standard deviation:  0.2561069
> #2
> 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
> print(s.means<-apply(samples,2,mean))
      s1      s2      s3      s4      s5      s6      s7      s8
2.555000 2.280000 2.665000 2.506667 2.528333 2.521667 2.225000 2.333333
      s9      s10     s11     s12     s13     s14     s15     s16
2.446667 2.515000 2.400000 2.540000 2.436667 2.378333 2.195000 2.330000
      s17     s18     s19     s20     s21     s22     s23     s24
2.483333 2.551667 2.430000 2.461667 2.461667 2.541667 2.435000 2.518333
      s25
2.503333

```

```

> print(s.sds<-apply(samples,2,sd))
      s1      s2      s3      s4      s5      s6      s7
0.1818516 0.2047437 0.1786337 0.2303620 0.1753188 0.2581795 0.2470425
      s8      s9      s10     s11     s12     s13     s14
0.2919361 0.2012627 0.1409610 0.2278596 0.4236980 0.2884210 0.3324104
      s15     s16     s17     s18     s19     s20     s21
0.3677907 0.2234278 0.1575648 0.2681355 0.2449490 0.2256915 0.3878359
      s22     s23     s24     s25
0.1349691 0.1217785 0.1478400 0.2163023
> #3
> print(true.mean<-mean(s.means))
[1] 2.449733
> print(true.sd<-sd(s.sds))
[1] 0.07947322
> popmn
[1] NA
> true.mean
[1] 2.449733
> popsd
[1] 0.2561069
> true.sd
[1] 0.07947322
> |

```