

```

1 setwd("c:\\Users\\it24104016\\Desktop\\New folder")
2 data<-read.table("Exercise - Laptopsweights.txt",header=TRUE)
3 fix(data)
4 attach(data)
5 #Q1
6 popmn<-mean(weight.kg.)
7 popmn
8
9 popsd<-sd(weight.kg.)
10 popsd
11
12 #Q2
13 samples<-c ()
14 n<-c()
15 for(i in 1:25){
16   s<-sample(weight.kg.,6,replace=TRUE)
17   samples<-cbind(samples,s)
18   n<-c(n,paste('s',i))
19 }
20
21 colnames(samples)=n
22 s.means<-apply(samples,2,mean)
23 s.means
24
25 s.vars<-apply(samples,2,var)
26 s.vars
27
28 s.sds<-apply(samples,2,sd)
29 s.sds
30
31 samplemean<-mean(s.means)
32 samplemean
33
34 samplesd<-sd(s.sds)
35 samplesd
36
37 popmn
38 samplemean
39
40 truemean=popmn/6
41 truemean
42
43 samplemean
44
45 popsd
46 samplesd
47
48 truesd=popsd/6
49 truesd
50
51 samplesd
52
53

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> setwd("c:\\users\\it24104016\\Desktop\\New folder")
> data<-read.table("Exercise - Laptopsweights.txt",header=TRUE)
> fix(data)
> attach(data)
> popmn
Error: object 'popmn' not found
> #Q1
> popmn<-mean(weight.kg.)
> popmn
[1] 2.468
> popsd<-sd(weight.kg.)
> popsd
[1] 0.2561069
> samples<-c ()
> n<-c()
> for(i in 1:25){
+   s<-sample(weight.kg.,6,replace=TRUE)
+   samples<-cbind(samples,s)
+   n<-c(n,paste('s',i))
+ }
> samples<-c ()
> n<-c()
> for(i in 1:25){
+   s<-sample(weight.kg.,6,replace=TRUE)
+   samples<-cbind(samples,s)
+   n<-c(n,paste('s',i))
+ }
>
> colnames(samples)=n
> s.means<-apply(samples,2,mean)
> s.means
      s 1      s 2      s 3      s 4      s 5      s 6      s 7      s 8
2.596667 2.536667 2.490000 2.661667 2.495000 2.460000 2.538333 2.616667
      s 9      s 10     s 11     s 12     s 13     s 14     s 15     s 16
2.551667 2.513333 2.410000 2.646667 2.458333 2.605000 2.538333 2.386667
      s 17     s 18     s 19     s 20     s 21     s 22     s 23     s 24
2.475000 2.443333 2.458333 2.358333 2.576667 2.408333 2.536667 2.285000
      s 25
2.485000
>
> s.vars<-apply(samples,2,var)
> s.vars
      s 1      s 2      s 3      s 4      s 5      s 6
0.05022667 0.06274667 0.11880000 0.01409667 0.06483000 0.06400000
      s 7      s 8      s 9      s 10     s 11     s 12
0.06805667 0.01814667 0.03933667 0.04394667 0.02196000 0.02678667
      s 13     s 14     s 15     s 16     s 17     s 18
0.04929667 0.02551000 0.03785667 0.17286667 0.07603000 0.03934667
      s 19     s 20     s 21     s 22     s 23     s 24
0.16025667 0.07097667 0.00774667 0.03265667 0.16822667 0.20719000
      s 25
0.07907000
>
> s.sds<-apply(samples,2,sd)
> s.sds

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0.049296667 0.025510000 0.037856667 0.172866667 0.076030000 0.039346667
  s 13      s 14      s 15      s 16      s 17      s 18
  s 19      s 20      s 21      s 22      s 23      s 24
0.160256667 0.070976667 0.007746667 0.032656667 0.168226667 0.207190000
  s 25
0.079070000
>
> s.sds<-apply(samples,2,sd)
> s.sds
  s 1      s 2      s 3      s 4      s 5      s 6
0.22411307 0.25049285 0.34467376 0.11872938 0.25461736 0.25298221
  s 7      s 8      s 9      s 10     s 11     s 12
0.26087673 0.13470956 0.19833473 0.20963460 0.14818907 0.16366633
  s 13     s 14     s 15     s 16     s 17     s 18
0.22202853 0.15971850 0.19456790 0.41577237 0.27573538 0.19835994
  s 19     s 20     s 21     s 22     s 23     s 24
0.40032070 0.26641446 0.08801515 0.18071156 0.41015444 0.45518128
  s 25
0.28119388
>
> samplemean<-mean(s.means)
> samplemean
[1] 2.501267
>
> samplesd<-sd(s.sds)
> samplesd
[1] 0.09726968
>
> popmn
[1] 2.468
> samplemean
[1] 2.501267
>
> truemean=popmn/6
> truemean
[1] 0.4113333
>
> samplemean
[1] 2.501267
>
> popsd
[1] 0.2561069
> samplesd
[1] 0.09726968
>
> truesd=popsd/6
> truesd
[1] 0.04268449
>
> samplesd
[1] 0.09726968
> |

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R ▾ Global Environment ▾		🔍
Data		
data	40 obs. of 1 variable	📅
Exercise...Laptopsweights	40 obs. of 1 variable	📅
samples	num [1:6, 1:25] 2.2 2.61 2.89 2.57 2.65 2.66 2.13 2.46 2.41 2.76 ...	📅
values		
i	25L	
n	chr [1:25] "s 1" "s 2" "s 3" "s 4" "s 5" "s 6" "s 7" "s 8" "s 9" "s 10" "..."	
popmn	2.468	
popsd	0.256106948813907	
s	num [1:6] 2.57 2.46 2.89 2.06 2.32 2.61	
s.means	Named num [1:25] 2.6 2.54 2.49 2.66 2.5 ...	
s.sds	Named num [1:25] 0.224 0.25 0.345 0.119 0.255 ...	
s.vars	Named num [1:25] 0.0502 0.0627 0.1188 0.0141 0.0648 ...	
samplemean	2.501266666666667	
samplesd	0.097269684708715	
truemean	0.411333333333333	
truesd	0.0426844914689845	