

Lab 08

IT2120

Probability And Statistics

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```
Untitled1* x  Untitled2* x
Source on Save
1 setwd("C:\\Users\\it24103883\\Desktop\\IT24103883")
2 data<-read.table("Exercise - Laptopsweights.txt", header=TRUE)
3 fix(data)
4 attach(data)
5
36:9 (Top Level) ↕

Console Terminal x Background Jobs x
R 4.2.2 · C:/Users/it24103883/Desktop/IT24103883/ ↗
[1] 0.02433251
> setwd("C:\\Users\\it24103883\\Desktop\\IT24103883")
> data<-read.table("Exercise - Laptopsweights.txt", header=TRUE)
> fix(data)
> attach(data)
> attach(data)
The following object is masked from data (pos = 3):
    weight.kg.
```

```
6 #Q1
7 popmean<-mean(weight.kg.)
8 popsd<-sd(weight.kg.)
9
10 popmean
11 popsd
12
36:9 (Top Level) ↕

Console Terminal x Background Jobs x
R 4.2.2 · C:/Users/it24103883/Desktop/IT24103883/ ↗
> popmean<-mean(weight.kg.)
> popsd<-sd(weight.kg.)
> popmean
[1] 2.468
> popsd
[1] 0.2561069
```

```

13 #Q2
14 samples<-c()
15 n<-c()
16
17 for(i in 1:25){
18   s<-sample(weight.kg.,6,replace=TRUE)
19   samples<-cbind(samples,s)
20   n<-c(n,paste('s',i,sep=''))
21 }
22
23 colnames(samples)=n
24
25 s.means<-apply(samples,2,mean)
26 s.sd<-apply(samples,2,sd)
27
28 s.means
29 s.sd
30

```

21:2 (Top Level) ↕

Console Terminal x Background Jobs x

R 4.2.2 · C:/Users/it24103883/Desktop/IT24103883/ ↗

```

> 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,sep=''))
+ }
>
> colnames(samples)=n
>
> s.means<-apply(samples,2,mean)
> s.sd<-apply(samples,2,sd)
>
> s.means

```

```

> s.means
      s1      s2      s3      s4      s5      s6      s7      s8      s9      s10     s11     s12     s13     s14
2.550000 2.420000 2.425000 2.373333 2.378333 2.446667 2.540000 2.633333 2.418333 2.513333 2.478333 2.590000 2.433333 2.628333
      s15     s16     s17     s18     s19     s20     s21     s22     s23     s24     s25
2.288333 2.411667 2.638333 2.583333 2.566667 2.468333 2.320000 2.413333 2.560000 2.263333 2.591667
> s.sd
      s1      s2      s3      s4      s5      s6      s7      s8      s9      s10     s11     s12     s13
0.3361547 0.2841830 0.2943297 0.1585770 0.4078439 0.1630542 0.1523155 0.1812917 0.2331023 0.1036661 0.1092551 0.1581139 0.2086784
      s14     s15     s16     s17     s18     s19     s20     s21     s22     s23     s24     s25
0.1318206 0.3505662 0.2833667 0.2057588 0.1157008 0.2688246 0.4463369 0.2521904 0.2115341 0.2573713 0.3336865 0.2230172

```

Alt

```
30  
31 #Q3  
32 samplemean<-mean(s.means)  
33 samplesd<-sd(s.means)  
34  
35 samplemean  
36 samplesd  
37 popmean  
38 samplemean  
39 popsd  
40 samplesd
```

21:2 (Top Level) ↕

Console

Terminal x

Background Jobs x

R 4.2.2 · C:/Users/it24103883/Desktop/IT24103883/ ↗

```
> #Q3  
> samplemean<-mean(s.means)  
> samplesd<-sd(s.means)  
>  
> samplemean  
[1] 2.477333  
> samplesd  
[1] 0.1086161  
>  
> #State relationships (as asked in exercise)  
> popmean  
[1] 2.468  
> samplemean  
[1] 2.477333  
> popsd  
[1] 0.2561069  
> samplesd  
[1] 0.1086161  
> |
```