Sri Lanka Institute of Information Technology

Lab Submission

Lab sheet No 08

IT24104192

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Probability and Statistics| IT2120

B.Sc. (Hons) in Information Technology
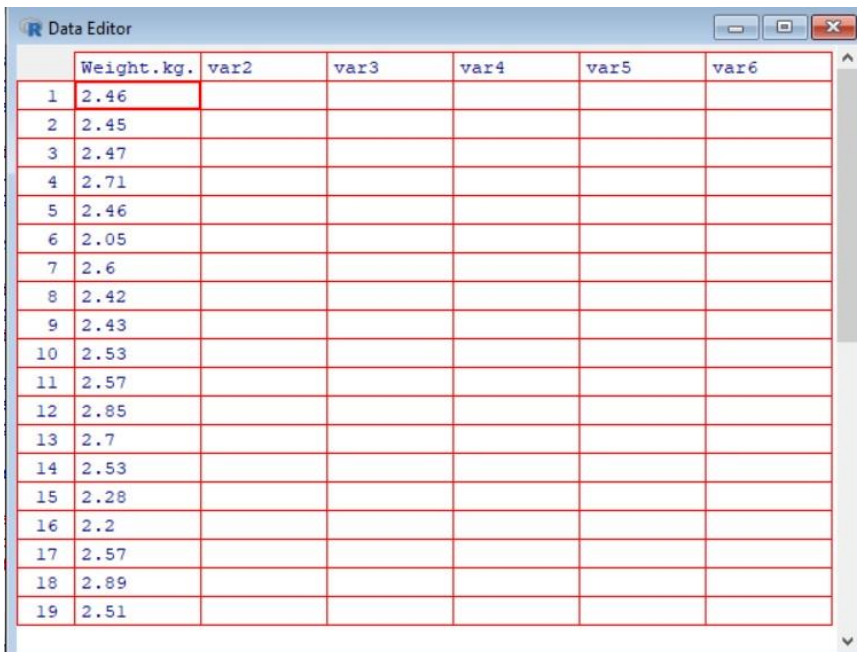
Exercise

Question 1

```
> setwd("C:\\Users\\IT24104192\\Desktop\\IT24104192")
> getwd()
[1] "C:/Users/IT24104192/Desktop/IT24104192"
> data<-read.table("Exercise.txt",header=TRUE)
> fix(data)
> attach(data)
The following object is masked from data (pos = 3):

    Weight.kg.

> #Q1
> popmn<-mean(Weight.kg.)
> popmn
[1] 2.468
>
> popsd<-sd(Weight.kg.)
> popsd
[1] 0.2561069
```

	Weight.kg.	var2	var3	var4	var5	var6
1	2.46					
2	2.45					
3	2.47					
4	2.71					
5	2.46					
6	2.05					
7	2.6					
8	2.42					
9	2.43					
10	2.53					
11	2.57					
12	2.85					
13	2.7					
14	2.53					
15	2.28					
16	2.2					
17	2.57					
18	2.89					
19	2.51					

Question 2

```
> #Q2
> 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.mean<-apply(samples,2,mean)
> s.mean
     s 1       s 2       s 3       s 4       s 5
2.571667 2.616667 2.356667 2.348333 2.343333
     s 6       s 7       s 8       s 9      s 10
2.441667 2.330000 2.493333 2.616667 2.546667
    s 11      s 12      s 13      s 14      s 15
2.565000 2.431667 2.576667 2.508333 2.498333
    s 16      s 17      s 18      s 19      s 20
2.396667 2.493333 2.468333 2.588333 2.365000
    s 21      s 22      s 23      s 24      s 25
2.503333 2.563333 2.426667 2.503333 2.440000

> s.sd<-apply(samples,2,sd)
> s.sd
       s 1        s 2        s 3        s 4        s 5
0.1526325 0.2593582 0.3470831 0.2637739 0.2289687
       s 6        s 7        s 8        s 9       s 10
0.4040008 0.3844477 0.2546894 0.1242041 0.2294922
      s 11       s 12       s 13       s 14       s 15
0.3060556 0.1866994 0.2524018 0.2205826 0.2507123
      s 16       s 17       s 18       s 19       s 20
0.3056578 0.1764842 0.2295575 0.1859480 0.2383065
      s 21       s 22       s 23       s 24       s 25
0.1093008 0.2592039 0.2111556 0.2447584 0.2534561
```

Question 3

```
> #Q3
> mean_of_sample_means<-mean(s.means)
Error in mean(s.means) : object 's.means' not found
> #Q3
> mean_of_sample_means<-mean(s.mean)
> mean_of_sample_means
[1] 2.479733
> sd_of_sample_means<-sd(s.sd)
> mean_of_sample_means
[1] 2.479733
```