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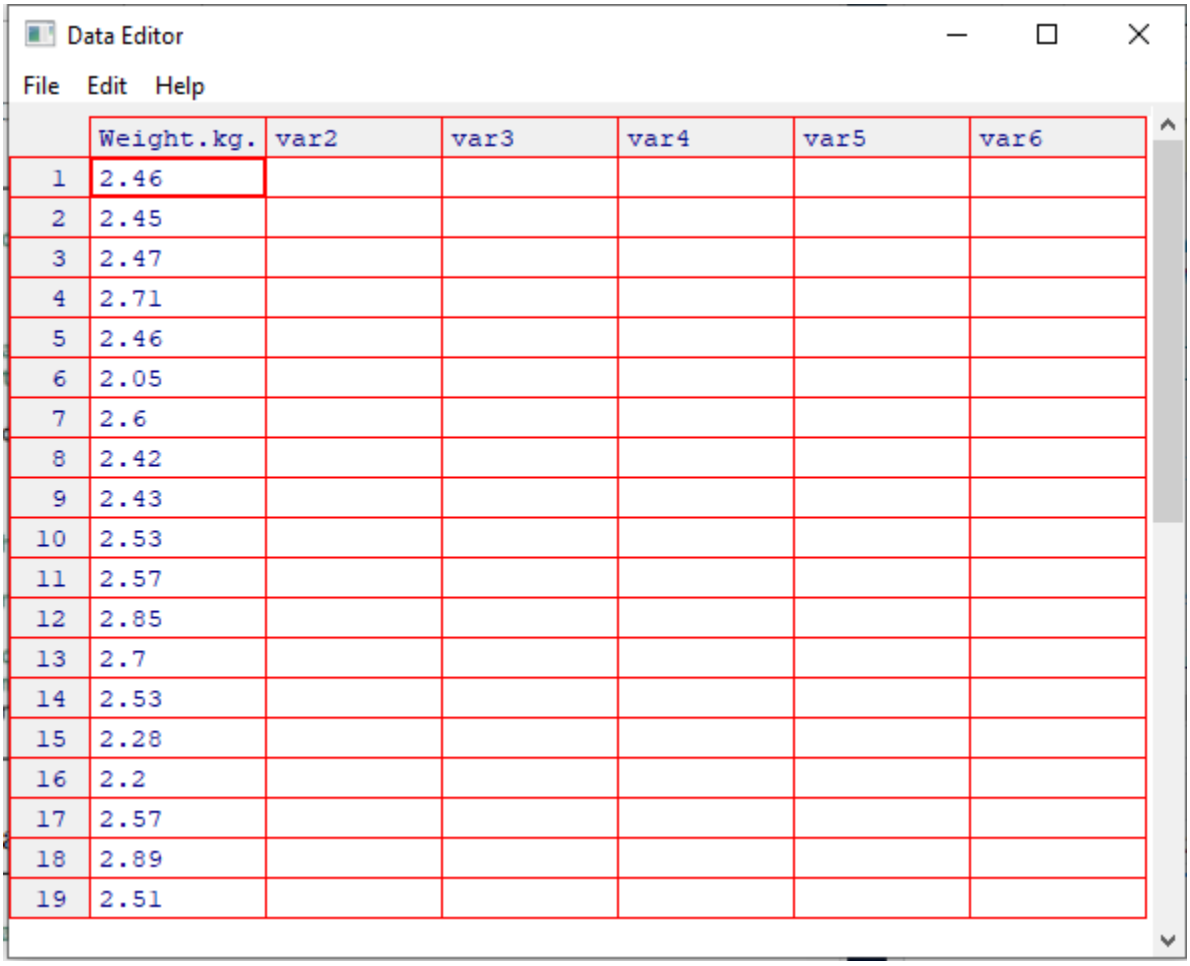
Lab 08

```
setwd("C:\\Users\\IT24101293\\Desktop\\IT24101293")
data<-read.table("Exercise - Laptopsweights.txt", header=TRUE)
fix(data)
attach(data)
```



	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					

Q1:

```
#1
popmn<-mean(weight.kg.)
popsd<-sd(weight.kg.)

cat("Population mean:",popmn, "\n")
cat("Population standard deviation: ",popsd,"\n")
```

Output:

```
> fix(data)
> popmn<-mean(weight.kg.)
> popsd<-sd(weight.kg.)
> cat("Population mean:",popmn, "\n")
Population mean: 2.468
> cat("Population standard deviation: ",popsd,"\n")
Population standard deviation:  0.2561069
>
```

Q2:

```
#2
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.sds<-apply(samples,2,sd)


samplemean<-mean(s.means)
print(samplemean)

samplevar<-var(s.means)
print(samplevar)

samplesd <- sqrt(s.samplevar)
print(samplesd)
```

Data	
data	40 obs. of 1 variable
Values	
i	25L
n	NULL

Q3:

```
#3
print(truemean<-mean(s.means))
print(truesd<-sd(s.sds))

popmn
truemean

popsd
truesd

truevar = popvar/6
samplevar
```

```
> #Q3
> #Comparng the population sd and sample sd
> popmn
[1] 2.468
> samplemean
[1] 2.476333
>
> #Comparing the popuation sd and sample sd
> popsd
[1] 0.2561069
> samplesd
[1] 0.1183715
```

Data	
data	40 obs. of 1 variable
Values	
i	25L
n	NULL
popmn	2.468
popsd	0.256106948813907
popvar	0.152455833333333
s	num [1:6] 2.51 2.89 2.71 2.66 2.57 2.57
s.means	Named num [1:26] 2.54 2.41 2.53 2.42 2.53 ...
s.sds	Named num [1:26] 0.117 0.236 0.153 0.176 0.236 …
samples	NULL
truemean	2.46833333333333
truesd	0.0468944533598121