Sri Lanka Institute of Information Technology

Lab 08

IT24100284
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Probability and Statistics | IT2120

B.Sc. (Hons) in Information Technology

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Console  Terminal  Background Jobs
R 4.5.1 · ~/IT24100284/

R version 4.5.1 (2025-06-13 ucrt) -- "Great Square Root"
Copyright (C) 2025 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> getwd()
[1] "C:/Users/techn/OneDrive/文件"
> setwd("C:\\Users\\techn\\OneDrive\\文件\\IT24100284")
> getwd()
[1] "C:/Users/techn/OneDrive/文件/IT24100284"
> #importing the data set
> data <- read.table("Exercise - LaptopsWeights.txt", header=TRUE)
> fix(data)
> attach(data)
> #Q1
> popmn <- mean(Weight.kg.)
> popmn
[1] 2.468
>
> popvar <- var(Weight.kg.)
> popvar
[1] 0.06559077
>
> popsd <- sqrt(popvar)
> popsd
[1] 0.2561069
```

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> #Q2
> 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
> s.means <- apply(samples, 2, mean)
> s.sds <- apply(samples, 2, sd)
> print(s.means <- apply(samples,2,mean))
      s1       s2       s3       s4       s5       s6       s7       s8       s9      s10      s11      s12      s13      s14
2.498333 2.598333 2.640000 2.346667 2.320000 2.485000 2.561667 2.566667 2.681667 2.575000 2.426667 2.455000 2.528333 2.408333
     s15      s16      s17      s18      s19      s20      s21      s22      s23      s24      s25
2.425000 2.556667 2.583333 2.535000 2.420000 2.543333 2.433333 2.505000 2.416667 2.506667 2.518333
> print(s.sds <- sd(s.sds))
[1] 0.0863343
> #Q3
> print(truemean <- mean(s.means))
[1] 2.5014
> print(truesd <- sd(s.sds))
[1] NA
> popmn
[1] 2.468
> truemean
[1] 2.5014
> popsd
[1] 0.2561069
> truesd
[1] NA
>
```

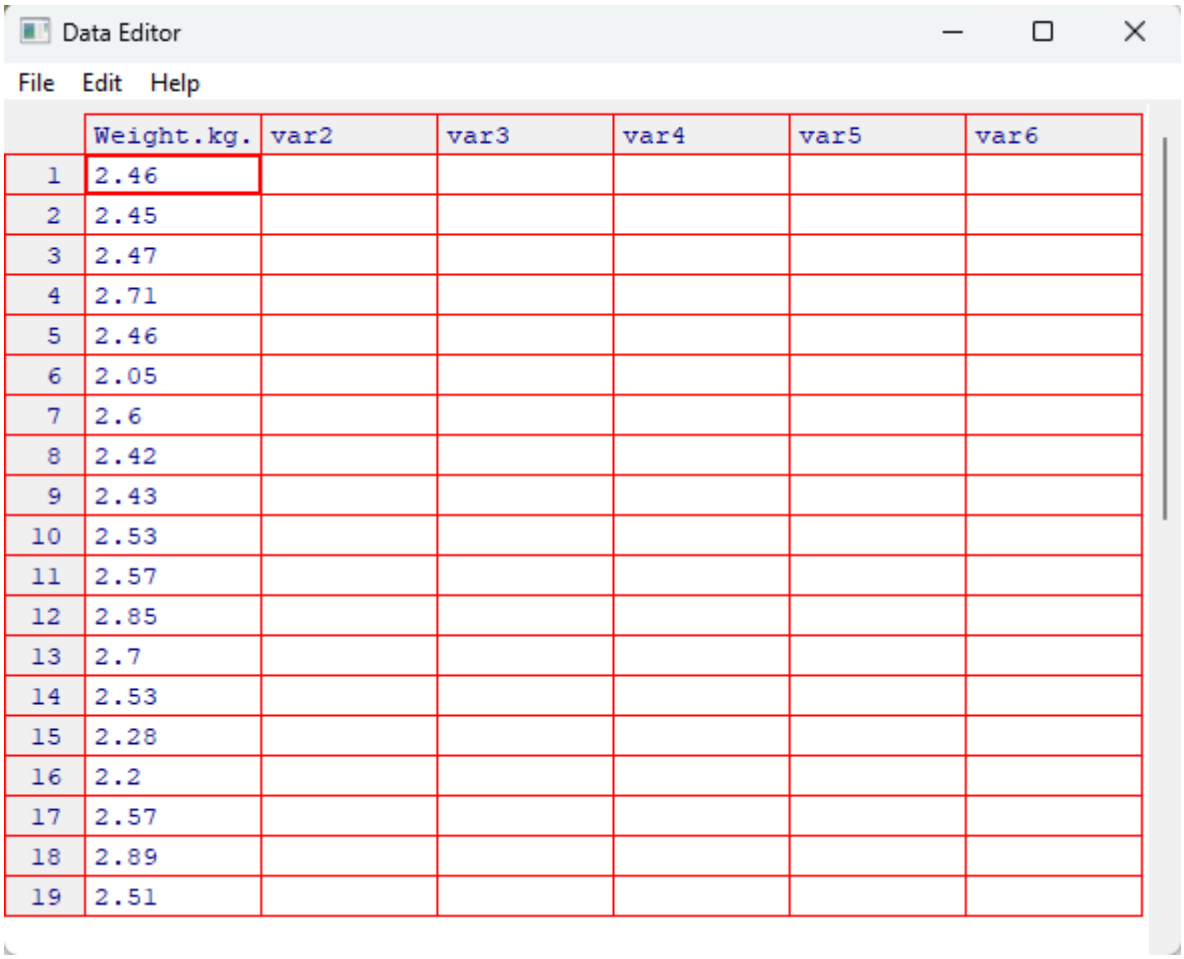

	Weight.kg.	var2	var3	var4	var5	var6
1	2.46					
2	2.45					
3	2.47					
4	2.71					
5	2.46					
6	2.05					
7	2.6					
8	2.42					
9	2.43					
10	2.53					
11	2.57					
12	2.85					
13	2.7					
14	2.53					
15	2.28					
16	2.2					
17	2.57					
18	2.89					
19	2.51