IT: IT24102303

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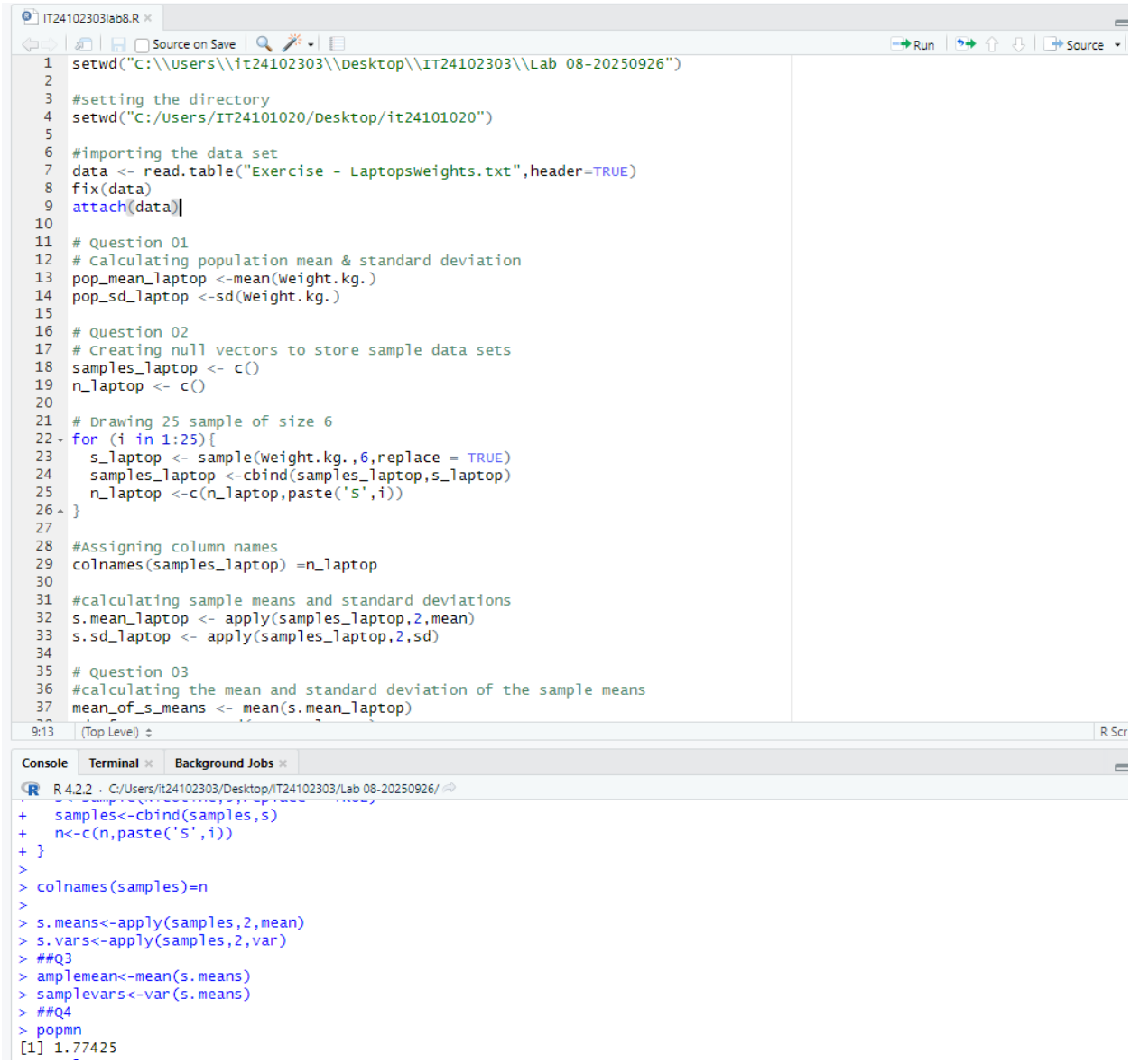

```
setwd("C:\\Users\\it24102303\\Desktop\\IT24102303\\Lab 08-20250926")

#setting the directory
setwd("C:/Users/IT24101020/Desktop/it24101020")

#importing the data set
data <- read.table("Exercise - LaptopsWeights.txt",header=TRUE)
fix(data)
attach(data)

# Question 01
# Calculating population mean & standard deviation
pop_mean_laptop <-mean(weight.kg.)
pop_sd_laptop <-sd(weight.kg.)

# Question 02
# Creating null vectors to store sample data sets
samples_laptop <- c()
n_laptop <- c()

# Drawing 25 sample of size 6
for (i in 1:25){
  s_laptop <- sample(weight.kg.,6,replace = TRUE)
  samples_laptop <-cbind(samples_laptop,s_laptop)
  n_laptop <-c(n_laptop,paste('S',i))
}

#Assigning column names
colnames(samples_laptop) =n_laptop

#calculating sample means and standard deviations
s.mean_laptop <- apply(samples_laptop,2,mean)
s.sd_laptop <- apply(samples_laptop,2,sd)

# Question 03
#calculating the mean and standard deviation of the sample means
mean_of_s_means <- mean(s.mean_laptop)
```

```
+   samples<-cbind(samples,s)
+   n<-c(n,paste('S',i))
+ }
>
> colnames(samples)=n
>
> s.means<-apply(samples,2,mean)
> s.vars<-apply(samples,2,var)
> ##Q3
> amplemean<-mean(s.means)
> samplevars<-var(s.means)
> ##Q4
> popmn
[1] 1.77425
```