

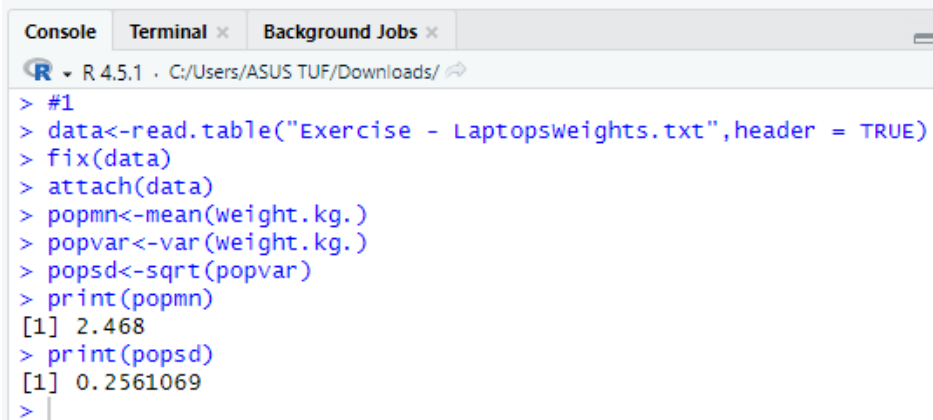
Reg No. – IT24100871

Module - PS

Lab 08

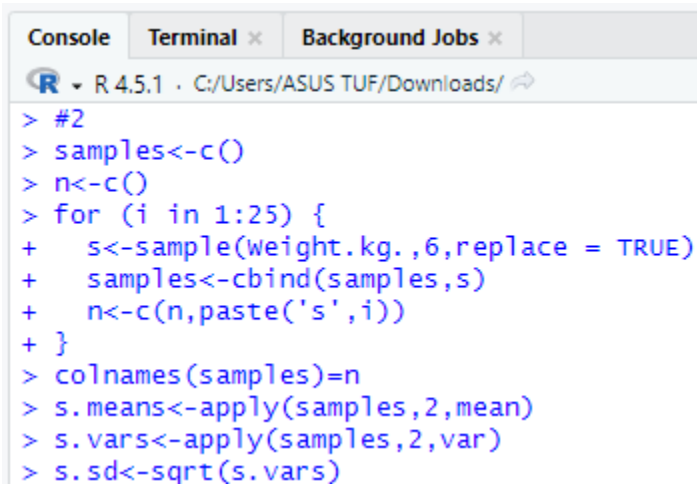
Exercise

1)

A screenshot of the R console window showing the execution of R code for exercise 1. The window has tabs for 'Console', 'Terminal', and 'Background Jobs'. The console shows the following commands and output:

```
> #1
> data<-read.table("Exercise - Laptopsweights.txt",header = TRUE)
> fix(data)
> attach(data)
> popmn<-mean(weight.kg.)
> popvar<-var(weight.kg.)
> popsd<-sqrt(popvar)
> print(popmn)
[1] 2.468
> print(popsd)
[1] 0.2561069
> |
```

2)

A screenshot of the R console window showing the execution of R code for exercise 2. The window has tabs for 'Console', 'Terminal', and 'Background Jobs'. The console shows the following commands:

```
> #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.vars<-apply(samples,2,var)
> s.sd<-sqrt(s.vars)
```

```

> print(s.means)
  s 1      s 2      s 3      s 4      s 5      s 6      s 7
2.468333 2.455000 2.388333 2.515000 2.400000 2.526667 2.446667
  s 8      s 9      s 10     s 11     s 12     s 13     s 14
2.500000 2.510000 2.590000 2.420000 2.573333 2.366667 2.568333
  s 15     s 16     s 17     s 18     s 19     s 20     s 21
2.511667 2.603333 2.561667 2.491667 2.558333 2.366667 2.675000
  s 22     s 23     s 24     s 25
2.546667 2.353333 2.305000 2.436667
> print(s.sd)
  s 1      s 2      s 3      s 4      s 5
0.24571664 0.23569047 0.21348692 0.27449954 0.37794179
  s 6      s 7      s 8      s 9      s 10
0.15983325 0.30362257 0.20405882 0.17933209 0.21391587
  s 11     s 12     s 13     s 14     s 15
0.25643713 0.13866026 0.23346663 0.22569153 0.26490879
  s 16     s 17     s 18     s 19     s 20
0.16145175 0.19384702 0.24838814 0.20507722 0.25904954
  s 21     s 22     s 23     s 24     s 25
0.06473021 0.11809601 0.21210061 0.32309441 0.13470956
> |

```

3)

```

Console Terminal x Background Jobs x
R 4.5.1 C:/Users/ASUS TUF/Downloads/
> #3
> samplemean<-mean(s.means)
> samplevars<-var(s.means)
> samplesd<-sqrt(samplevars)
> print(samplemean)
[1] 2.485533
> print(samplesd)
[1] 0.09098703
> popmn
[1] 2.468
> samplemean
[1] 2.485533
> truevar=popvar/6
> truesd=sqrt(truevar)
> truesd
[1] 0.1045552
> samplesd
[1] 0.09098703
> |

```