IT24103902

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Probability and Statistics - IT2120

Lab Sheet 08

```
setwd("C:\\Users\\User\\Desktop\\IT24103902")

getwd()
data <-read.table("Exercise - LaptopsWeights.txt" ,header = TRUE)
fix(data)
attach(data)

popmn  <- mean(Weight.kg.)
popmn
popvar <- var (Weight.kg.)
popvar


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.means
s.vars <- apply(samples , 2 , var)
s.vars

samplemean <- mean(s.means)
samplemean
samplevars <- var(s.means)
samplevars
```

```
> setwd("C:\\Users\\User\\Desktop\\IT24103902")
>
> getwd()
[1] "C:/Users/User/Desktop/IT24103902"
> data <-read.table("Exercise - LaptopsWeights.txt" ,header = TRUE)
> fix(data)
> attach(data)
The following object is masked from data (pos = 3):

    Weight.kg.

The following object is masked from data (pos = 4):

    Weight.kg.

The following object is masked from data (pos = 5):

    Weight.kg.

>
> popmn  <- mean(Weight.kg.)
> popmn
[1] 2.468
> popvar <- var (Weight.kg.)
> popvar
[1] 0.06559077
>
>
> 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
```

```
> colnames(samples) = n
>
> s.means <- apply(samples ,2, mean)
> s.means
     s 1      s 2      s 3      s 4      s 5      s 6      s 7      s 8      s 9     s 10
2.300000 2.428333 2.493333 2.338333 2.576667 2.125000 2.598333 2.568333 2.511667 2.391667
    s 11     s 12     s 13     s 14     s 15     s 16     s 17     s 18     s 19     s 20
2.518333 2.460000 2.445000 2.618333 2.388333 2.401667 2.546667 2.528333 2.353333 2.508333
    s 21     s 22     s 23     s 24     s 25
2.453333 2.441667 2.513333 2.413333 2.206667
> s.vars <- apply(samples , 2 , var)
> s.vars
        s 1         s 2         s 3         s 4         s 5         s 6         s 7
0.058240000 0.021456667 0.042026667 0.087936667 0.020146667 0.054190000 0.057056667
        s 8         s 9        s 10        s 11        s 12        s 13        s 14
0.023696667 0.018056667 0.178056667 0.032136667 0.101360000 0.069710000 0.020256667
       s 15        s 16        s 17        s 18        s 19        s 20        s 21
0.070136667 0.119056667 0.181626667 0.008856667 0.142746667 0.059856667 0.036986667
       s 22        s 23        s 24        s 25
0.043056667 0.035586667 0.034986667 0.101626667
>
> samplemean <- mean(s.means)
> samplemean
[1] 2.445133
> samplevars <- var(s.means)
> samplevars
[1] 0.01390623
>
```