

Lab 08 PS

IT24104332 – Fernando R. R. S. J.

Sample	Mean	Standard Deviation
1	2.448333	0.2366784
2	2.380000	0.2913417
3	2.386667	0.2393881
4	2.498333	0.2910269
5	2.128333	0.2524612
6	2.426667	0.2524612
7	2.358333	0.1638800
8	2.528333	0.2115104
9	2.568333	0.1758882
10	2.531667	0.1402022
11	2.305000	0.3420380
12	2.378333	0.1487840
13	2.485000	0.0680441
14	2.581667	0.1821446
15	2.351667	0.4079910
16	2.451667	0.1585455
17	2.516667	0.3996832
18	2.523333	0.1846799
19	2.351667	0.4127186
20	2.375000	0.2608256
21	2.415000	0.2352658
22	2.513333	0.2110608
23	2.595000	0.1165762
24	2.350000	0.1525778
25	2.501667	0.1817049
26	2.618333	0.1293703

Population Mean	2.468
Population Variance	0.06559077
Mean of the Sample Means	2.444936
Variance of the Sample Means	0.01186344

Population Standrad Deviation	0.2561069
Standard Deviation of the Sample Means	0.1089194

### Question 01

```
> popmn<-mean(weight.kg.)
> popmn
[1] 2.468
>
> popvar<-var(weight.kg.)
> popvar
[1] 0.06559077
>
> sd <- sqrt(popvar)
> sd
[1] 0.2561069
```

### Question 02

```
> 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
Error in dimnames(x) <- dn :
  length of 'dimnames' [2] not equal to array extent
> samples
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
[1,] 2.89 2.75 2.46 2.46 2.57 2.53 2.75 2.13 2.05 2.57 2.17 2.66 2.05 2.20 2.47 2.51 2.70 2.20 2.28 2.53 2.57 2.28 2.61 2.76 2.57
[2,] 2.42 2.73 2.28 2.47 2.61 1.71 2.05 2.57 2.42 2.73 2.42 2.17 2.66 2.70 2.85 2.57 2.47 2.57 1.71 2.06 2.71 2.66 2.43 2.85 2.13
[3,] 2.42 2.46 2.76 2.46 2.57 2.57 2.28 2.43 2.71 2.42 2.76 2.42 2.76 2.57 2.28 2.46 2.45 2.73 2.46 2.46 2.43 2.42 2.28 2.46 2.70
[4,] 2.60 2.28 2.76 2.57 2.20 2.06 2.47 2.13 2.46 2.43 2.57 2.13 2.53 2.57 2.67 2.46 2.43 2.20 2.47 2.43 2.53 2.66 2.42 2.41 2.46
[5,] 2.46 2.65 2.41 2.53 2.46 2.43 2.57 2.71 2.32 2.43 2.17 2.60 2.75 2.46 2.73 2.05 2.51 2.85 2.85 2.47 2.73 2.47 1.71 2.45 2.13
[6,] 2.51 2.28 2.05 2.05 2.76 2.60 2.47 2.65 2.61 2.43 2.75 2.75 2.76 2.67 2.28 2.47 2.76 2.05 2.46 2.57 2.43 2.47 2.89 2.73 2.46
> s.means <- apply(samples,2,mean)
> s.means
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
2.550000 2.525000 2.453333 2.423333 2.528333 2.316667 2.431667 2.436667 2.428333 2.501667 2.473333 2.455000 2.585000 2.528333
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
2.546667 2.420000 2.553333 2.433333 2.371667 2.420000 2.566667 2.493333 2.390000 2.610000 2.408333
> s.vars
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
0.05601667 0.08488000 0.05730667 0.08469667 0.06373667 0.13810667 0.02685667 0.04473667 0.03093667 0.01965667 0.11699000 0.02213667
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
0.00463000 0.03317667 0.16645667 0.02513667 0.15974667 0.03410667 0.17033667 0.06803000 0.05535000 0.04454667 0.01359000 0.02328000
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
0.03301667 0.01673667
> s.sds
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
0.2366784 0.2913417 0.2393881 0.2910269 0.2524612 0.3716271 0.1638800 0.2115104 0.1758882 0.1402022 0.3420380 0.1487840 0.0680441
      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s      s
0.1821446 0.4079910 0.1585455 0.3996832 0.1846799 0.4127186 0.2608256 0.2352658 0.2110608 0.1165762 0.1525778 0.1817049 0.1293703
```

Acti  
Go to

### Question 03

```
> samplemean  
[1] 0.01186344  
> samplevar  
[1] 0.01186344  
> samplesd  
[1] 0.1089194  
> popmn  
[1] 2.468  
> sd  
[1] 0.2561069
```