

Stats for DS HW 2

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“1.6.16”

a: units are thousands of dollars for mean and thousands of dollars squared for variance. Values as shown below.

```
salaries = c(152,169,178,179,185,188,195,196,198,203,204,209,210,212,214)
meansal = mean(salaries)
varsal = var(salaries)
meansal
```

```
## [1] 192.8
```

```
varsal
```

```
## [1] 312.3143
```

b (i):

```
newvar = varsal
newmean = meansal + 5
newmean
```

```
## [1] 197.8
```

```
newvar
```

```
## [1] 312.3143
```

b (ii):

```
newvar2 = (1.05**2)*varsal
newmean2 = 1.05*meansal
#doing it another way to verify
salaries2 = 1.05*salaries
newmean2
```

```
## [1] 202.44
```

```
mean(salaries2)
```

```
## [1] 202.44
```

```
newvar2
```

```
## [1] 344.3265
```

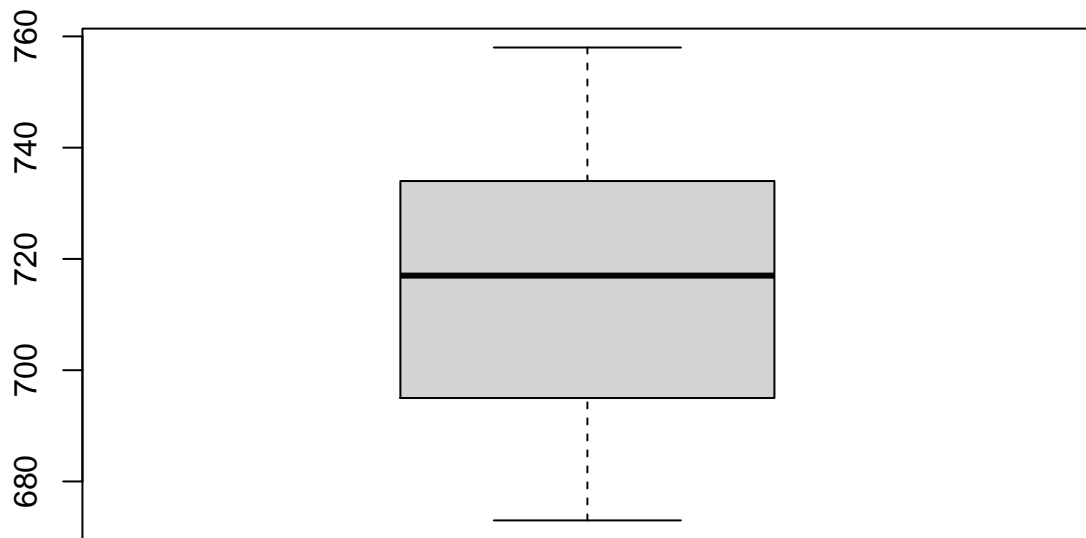
```
var(salaries2)
```

```
## [1] 344.3265
```

“1.7.4”

a:

```
si=read.table(  
url(  
"https://media.pearsoncmg.com/cmg/pmmg_mml_shared/mathstatsresources/Akritas/SolarIntensAuData.txt"),  
header=T)  
boxplot(si)
```



b:

```
quantile(si$SI, .3)
```

```
## 30%  
## 700.7
```

```
quantile(si$SI, .6)
```

```
## 60%  
## 720.8
```

```
quantile(si$SI, .9)
```

```
## 90%  
## 746
```

“2.2.10”

a: E1 has 21, E2 has 14, E3 has 30

c: (1)E1 and E2: The disk has low shock absorption and low hardness (2)E1 or E2: The disk has low shock absorption or low hardness or both (3)E1 - E2: The disk has low hardness and high shock absorption (4)(E1 - E2) or (E2 - E1): The disk has low hardness and high shock absorption or the disk has high hardness and low shock absorption

d: (1) has 5, (2) has 30, (3) has 16, (4) has 25

“2.3.9”

a:

```
choose(12, 4)
```

```
## [1] 495
```

b:

```
(choose(5, 2)*4*3)
```

```
## [1] 120
```

c: $120/495$