A37_Hoermann

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```
library(data.table)
```

```
data = data.table(x = c(122, 120, 123, 126, 124),
           y = c(114, 125, 121, 127, 128),
           z = c(118, 129, 131, 135, 137))
data
```

```
##      x   y   z
## 1: 122 114 118
## 2: 120 125 129
## 3: 123 121 131
## 4: 126 127 135
## 5: 124 128 137
```

```
res.xy = var.test(data$x, data$y)
res.xy
```

```
##
##  F test to compare two variances
##
## data:  data$x and data$y
## F = 0.15385, num df = 4, denom df = 4, p-value = 0.09719
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.01601808 1.47761998
## sample estimates:
## ratio of variances
##          0.1538462
```

```
res.xz = var.test(data$x, data$z)
res.xz
```

```
##
##  F test to compare two variances
##
## data:  data$x and data$z
## F = 0.090909, num df = 4, denom df = 4, p-value = 0.03935
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.009465231 0.873139080
## sample estimates:
## ratio of variances
##         0.09090909
```

```
res.yz = var.test(data$y, data$z)
res.yz
```

```
##
##  F test to compare two variances
##
```

```
## data:  data$y and data$z
## F = 0.59091, num df = 4, denom df = 4, p-value = 0.6228
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.061524 5.675404
## sample estimates:
## ratio of variances
##          0.5909091
```

Holm - Bonferoni Correction

```
data.var = data.table(xy = res.xy$p.value,
                      xz = res.xz$p.value,
                      yz = res.yz$p.value)
data.var
```

```
##            xy         xz        yz
## 1: 0.09718519 0.03935185 0.6227872
```

```
p.adjust(data.var, method = "holm")
```

```
##        xy        xz        yz
## 0.1943704 0.1180556 0.6227872
```

Thus no H0 are rejected.