A30_Hoermann

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

```
set.seed(1)
v1 = rnorm(n = 5, mean = 30, sd = 3)
v2 = runif(n = 5, min = 20, max = 40)
v3 = rnorm(n = 50, mean = 30, sd = 3)
v4 = runif(n = 50, min = 20, max = 40)
```

```
data.table(v1=v1, v2=v2)
```

```
##          v1       v2
## 1: 28.12064 24.11949
## 2: 30.55093 23.53114
## 3: 27.49311 33.74046
## 4: 34.78584 27.68207
## 5: 30.98852 35.39683
```

```
head(data.table(v3=v3, v4=v3))
```

```
##          v3       v4
## 1: 29.98270 29.98270
## 2: 37.21396 37.21396
## 3: 32.29078 32.29078
## 4: 27.60297 27.60297
## 5: 26.55703 26.55703
## 6: 29.13162 29.13162
```

Tests

```
ks.test(v1, "pnorm", 30, 3)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v1
## D = 0.20168, p-value = 0.959
## alternative hypothesis: two-sided
```

```
ks.test(v1, "punif", 20, 40)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v1
## D = 0.37466, p-value = 0.3837
## alternative hypothesis: two-sided
```

```
ks.test(v2, "pnorm", 30, 3)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v2
## D = 0.38013, p-value = 0.3662
## alternative hypothesis: two-sided
```

Manual Test:

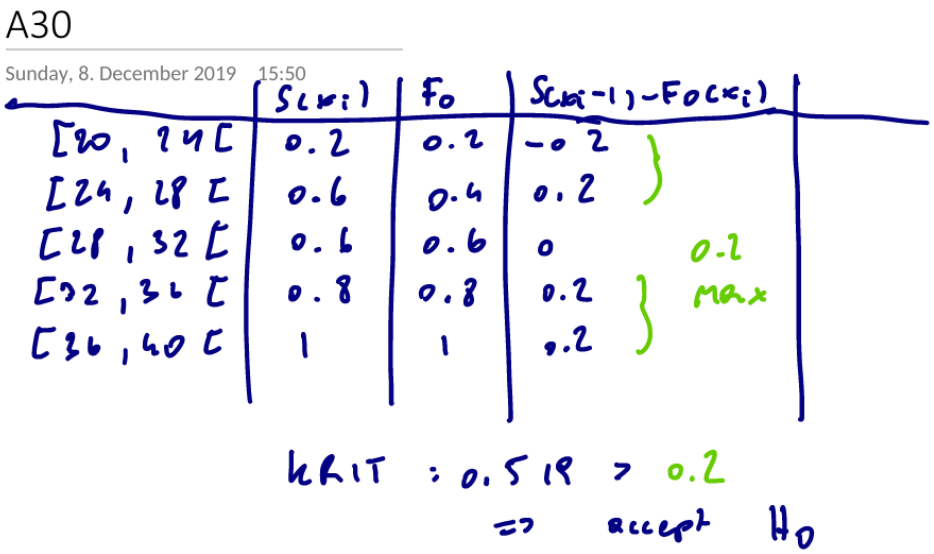

Figure 1: Manuallay executed KS test

Double Check:

```
ks.test(v2, "punif", 20, 40)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v2
## D = 0.23016, p-value = 0.9004
## alternative hypothesis: two-sided
```

```
ks.test(v3, "pnorm", 30, 3)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v3
## D = 0.079466, p-value = 0.8855
## alternative hypothesis: two-sided
```

```
ks.test(v3, "punif", 20, 40)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v3
```

```
## D = 0.28731, p-value = 0.0003791
## alternative hypothesis: two-sided
```

```
ks.test(v4, "pnorm", 30, 3)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v4
## D = 0.24432, p-value = 0.004104
## alternative hypothesis: two-sided
```

```
ks.test(v4, "punif", 20, 40)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  v4
## D = 0.1172, p-value = 0.4633
## alternative hypothesis: two-sided
```