677 Homework March 8

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1. There is insufficient evidence to show that the distribution is not uniform given the p-value of 0.3501.

```r
maybe_uni<-read.table("maybe_uniform.txt", header = FALSE)
```

```
## Warning in read.table("maybe_uniform.txt", header = FALSE): incomplete
## final line found by readTableHeader on 'maybe_uniform.txt'
```

```r
ks.test(maybe_uni, "punif")
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  maybe_uni
## D = 0.18, p-value = 0.3501
## alternative hypothesis: two-sided
```

2. At alpha level 0.05 we can reject the null value that the distribution is drawn from the normal distribution.

```r
maybe_norm<-read.table("maybe_normal.txt", header = FALSE)
ks.test(maybe_norm, "pnorm", 26, 4)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  maybe_norm
## D = 0.19311, p-value = 0.04157
## alternative hypothesis: two-sided
```

3. There is insufficient evidence to reject the null that the samples are drawn from the same distribution.

```r
maybe1<-c(0.61, 0.29, 0.06, 0.59, -1.73, -0.74, 0.51, -0.56, -0.39, 1.64, 0.05, -0.06, 0.64, -0.82, 0.3
maybe2<-c(2.20, 1.66, 1.38, 0.20, 0.36, 0.00, 0.96, 1.56, 0.44, 1.50, -0.30, 0.66, 2.31, 3.29, -0.27, -
ks.test(maybe1, maybe2)
```

```
##
##  Two-sample Kolmogorov-Smirnov test
##
## data:  maybe1 and maybe2
## D = 0.27, p-value = 0.3357
## alternative hypothesis: two-sided
```

4. There is insufficient evidence to reject the null that the samples are drawn from the same distribution. D is equal to 0.177.

```r
normsamp<-readRDS("norm_sample.Rdata")
ks.test(normsamp, "pnorm",0,1)
```

```
##
##  One-sample Kolmogorov-Smirnov test
##
## data:  normsamp
## D = 0.17724, p-value = 0.3683
## alternative hypothesis: two-sided
```

```r
ecdf(normsamp)
```

```
## Empirical CDF
## Call: ecdf(normsamp)
##  x[1:25] =  -2.46,  -2.11,  -1.23,  ...,   1.64,   1.76
```

```r
pnorm(0,1)
```

```
## [1] 0.1586553
```

5. Not sure about this one.