Interpreting $p-$values

For the purposes of this module, we will use the following rules of thumb. If we do not have a significant $p-$value, we fail to reject the null hypothesis. If we have a significant result, we reject the Null Hypothesis.

- p-value is greater than 0.05 - Not Significant

- p-value is between 0.05 and 0.01 - Significant

- p-value is between 0.01 and 0.001 - Very Significant

- p-value is less than 0.001 - Highly Significant

Example 1 - Significant Result

```
grubbs.test(x, two.sided=T)
          Grubbs test for one outlier
data:  x
G = 2.4180, U = 0.4202, p-value = 0.04811
alternative hypothesis: lowest value 3.51 is an outlier
```

Figure 1:

Example 2 - Result Not Significant

```
ks.test(y,pnorm,mean(y),sd(y))
One-sample Kolmogorov-Smirnov test
data:  y
D = 0.1442, p-value = 0.9518
```

Figure 2: