M440B HW 17

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Problem 28: I will be using the watchstacked.csv file available on Canvas for this problem.

```
watch <- read.csv("~/M440B_HW/M440B Stuff/Data/watchstacked.csv")
watch.aov <- aov(WatchData~Group,data = watch)
summary(watch.aov)
```

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## Group        1     70    70.5   0.158  0.695
## Residuals   18   8008   444.9
```

The above ouput is a parametric ANOVA table. Because the p-value is so high, we conclude that there is insufficient evidence to conclude that the different watches have different means.

```
kruskal.test(WatchData~Group, data=watch)
```

```
##
##  Kruskal-Wallis rank sum test
##
## data:  WatchData by Group
## Kruskal-Wallis chi-squared = 2.1547, df = 2, p-value = 0.3405
```

Above is the output for the non-parametric analysis. Notice that the p-value is still big, so the conclusion would be the same; however, it is interesting to see that the p-value for the Kruskal-Wallis test is more "significant" than the parametric analysis.

Problem 27: I will be using the mice.csv file for this problem.

```
mice <- read.csv("~/M440B_HW/M440B Stuff/Data/mice.CSV")
pairwise.t.test(mice$Count, mice$Species, p.adj = "bonf")
```

```
##
##  Pairwise comparisons using t tests with pooled SD
##
## data:  mice$Count and mice$Species
##
##     AJ      C57
## C57 < 2e-16 -
## F2  4.4e-07 3.7e-11
##
## P value adjustment method: bonferroni
```

The above output indicates that there is a significant difference in the mean "aggressiveness" of each of the recorded species of mice.