Homework 5

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1.
```
> batteries <- read.csv("~/Documents/Stat103/Data Sets/batteries.csv", header=FALSE)
> fit <- lm(batteries$V2~batteries$V1)
> anova(fit)

Analysis of Variance Table

Response: batteries$V2
             Df Sum Sq Mean Sq F value  Pr(>F)
batteries$V1  3  139.5  46.500  4.0879 0.03253 *
Residuals    12  136.5  11.375
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1   1
```

   Since p = 0.03252, we may reject the null and conclude some brands of batterieries differ in lifetimes.

```
> confint(fit)

                        2.5 %    97.5 %
(Intercept)        10.075776 17.424224
batteries$V1Brand2 -3.446137  6.946137
batteries$V1Brand3  1.803863 12.196137
batteries$V1Brand4  1.053863 11.446137
```

   We can conclude with 95% confidence that Brand 2 has a shorter lifetime than Brand 1.

2.
```
> price <- read.csv("~/Documents/Stat103/Data Sets/ToyPrice.csv", header=FALSE)
> fit <- lm(price$V1~price$V2)
> anova(fit)

Analysis of Variance Table

Response: price$V1
          Df Sum Sq Mean Sq F value  Pr(>F)
price$V2   2 46.717 23.3583  3.4655 0.06487 .
Residuals 12 80.883  6.7403
---
Signif. codes:  0 *** 0.001 ** 0.01 * 0.05 . 0.1   1
```

   Since p > 0.06 > 0,05, we fail to conclude with 95% confidence that there are any differeneces in price between discount stores, specialty stores, or varienty stores.