R Code for Examples in the book
"Statistics: The Art and Science of Learning from Data"
by Agresti, Franklin and Klingenberg, 5th edition

Chapter 14

Example 12: Corn Yield Data – Testing for Interaction

Reading in data

```
data <-
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapte
r14/corn_yield.csv')
head(data, 3)

##   fertilizer manure yield
## 1       high   high  13.7
## 2       high   high  15.8
## 3       high   high  13.9
```

Fitting in regression model

```
lin.reg <- lm(yield ~ fertilizer + manure + fertilizer:manure, data = data)
```

To get the two-way ANOVA

```
aov <- anova(lin.reg)
round(aov, 3)

## Analysis of Variance Table
##
## Response: yield
##                   Df Sum Sq Mean Sq F value Pr(>F)
## fertilizer         1 17.672  17.672   6.368  0.023 *
## manure             1 19.208  19.208   6.922  0.018 *
## fertilizer:manure  1  3.042   3.042   1.096  0.311
## Residuals         16 44.400   2.775
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```