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 10: Estimate and Compare Corn Yield – Regression Modeling

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, data = data)
```

To view the regression coefficients

```
summary(lin.reg)

##
## Call:
## lm(formula = yield ~ fertilizer + manure, data = data)
##
## Residuals:
##    Min     1Q Median     3Q    Max
##  -2.95  -1.35   0.16   1.18   2.87
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   15.4900     0.6470  23.941 1.55e-14 ***
## fertilizerlow -1.8800     0.7471  -2.516   0.0222 *
## manurelow     -1.9600     0.7471  -2.624   0.0178 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.671 on 17 degrees of freedom
## Multiple R-squared:  0.4374, Adjusted R-squared:  0.3712
## F-statistic: 6.608 on 2 and 17 DF,  p-value: 0.007532
```