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

Chapter 12

Example 5: Strength and Bench Presses – Inference About the Slope

Reading in data

```
data <-
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapter12/highschool_female_athletes.csv')
```

Fitting regression model

```
lin.reg <- lm(maxBP..lbs. ~ BP60, data = data)
```

To view a summary of the regression model which includes the t-statistic and corresponding p-value for the null hypothesis that the slope for BP60 = 0

```
summary(lin.reg)

##
## Call:
## lm(formula = maxBP..lbs. ~ BP60, data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -17.9205  -5.9027  -0.7237   5.4989  19.0973
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  63.5369     1.9565  32.475  < 2e-16 ***
## BP60          1.4911     0.1497   9.958 6.48e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 8.003 on 55 degrees of freedom
## Multiple R-squared:  0.6432, Adjusted R-squared:  0.6368
## F-statistic: 99.17 on 1 and 55 DF,  p-value: 6.481e-14
```