



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 6: Predicting Max Bench Press – 95% Confidence Interval for the Slope

Reading in data

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

## [1] "Athlete"          "BP60"              "maxBP..lbs."
## [4] "LP200"            "maxLP..lbs."       "Situps..per.minute."
## [7] "X40YD..sec."      "VerticalJump..in." "SitReach..in."
## [10] "MB..in."          "SR..sec."          "Age"
## [13] "Height..in."      "Weight..lbs."      "Bodyfat...."
## [16] "BMI"              "Sport"
```

Fitting regression model

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

To compute a 95% confidence interval for the slope, you can use the `confint()` function

```
confint(lin.reg, 'BP60', level = 0.95)

##           2.5 %    97.5 %
## BP60 1.190987 1.791119
```