



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

Chapter 3

Example 10: Baseball Scoring – Regression Equation

Reading in the data

```
baseball <-  
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapter3/AL_team_statistics.csv')  
attach(baseball) # so we can refer to variable names
```

Fitting in regression model

```
lin.reg <- lm(scoring ~ batting)
```

Viewing model

```
lin.reg  
  
##  
## Call:  
## lm(formula = scoring ~ batting)  
##  
## Coefficients:  
## (Intercept)      batting  
##      -2.32      26.07
```

From this model, you can obtain the regression equation: Team Scoring = -2.32 + 26.07 * Batting Average.

To use this model to predict a given team's score given its batting average, you can substitute their batting average in the equation.

```
-2.32 + 26.07 * 0.27
```

```
## [1] 4.7189
```

or you can use the predict() function

```
new <- data.frame(batting = c(0.27))  
predict(lin.reg, newdata = new)
```

```
##      1  
## 4.719605
```