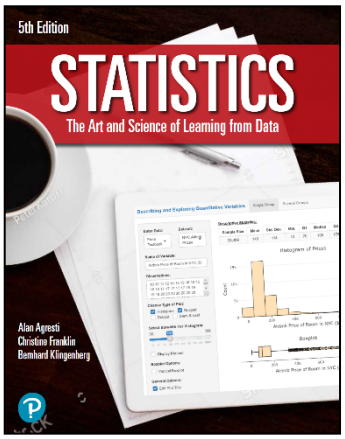

R Code for Examples in the book
"Statistics: The Art and Science of Learning from Data"
by Agresti, Franklin and Klingenberg, 5th edition

Chapter 13

Example 2: Predicting House Prices – Multiple Regression

Reading in data

```
data <-
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapter13/house_selling_prices_or.csv')
colnames(data) #check column names
```

```
##  [1] "House.Price..USD." "HP.in.thousands"   "House.Size"
##  [4] "Acres"             "Lot.Size"          "Bedrooms"
##  [7] "T.Bath"            "Age"               "Garage"
## [10] "Condition"         "Age.Category"
```

Fitting in multiple regression model

```
lin.reg <- lm(House.Price..USD. ~ House.Size + Bedrooms, data = data)
lin.reg
```

```
##
## Call:
## lm(formula = House.Price..USD. ~ House.Size + Bedrooms, data = data)
##
## Coefficients:
## (Intercept)   House.Size     Bedrooms
##    60102.14        62.98     15170.41
```

To predict the selling price of the given home and find its corresponding 95% confidence interval

```
new <- data.frame(House.Size = 1679, Bedrooms = 3)
predict(lin.reg, newdata = new, interval = 'confidence')
```

```
##        fit      lwr      upr
## 1 211361.3 197605.3 225117.3
```