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 9: House Selling Price – Plotting Residuals

Reading in data

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

Fitting in multiple regression model

```
lin.reg <- lm(HP.in.thousands ~ House.Size + Bedrooms, data = data)
lin.reg

##
## Call:
## lm(formula = HP.in.thousands ~ House.Size + Bedrooms, data = data)
##
## Coefficients:
## (Intercept)    House.Size      Bedrooms
##    60.10214       0.06298      15.17041
```

To obtain standardized residuals

```
stdres <- rstandard(lin.reg)
head(stdres)

##          1          2          3          4          5          6
##  0.2643425  0.6441210 -1.6377349  0.1023211 -0.3326797  1.9403118
```

To plot standardized residuals against house size

```
plot(stdres ~ data$House.Size, pch = 16, col = 'darkblue',
     main = 'Residual Versus House Size',
     xlab = 'House Size', ylab = 'Standardized Residual',
     xlim = c(0, 12000), ylim = c(-5, 5))
```

Residual Versus House Size