Regression Quality

Coefficient of Determination

$$SS_{res} = \sum_i (y_i - \hat{y}_i)^2$$

$$\bar{y} = \frac{1}{n} \sum_{i=1}^{n} y_i$$

$$SS_{tot} = \sum_i (y_i - \bar{y})^2$$

$$R^2 = 1 - \frac{SS_{res}}{SS_{tot}}$$

Mean Squared Error (MSE)

$$MSE = \frac{1}{n}\sum_{n=1}^{n}(y_i - \hat{y}_i)^2$$

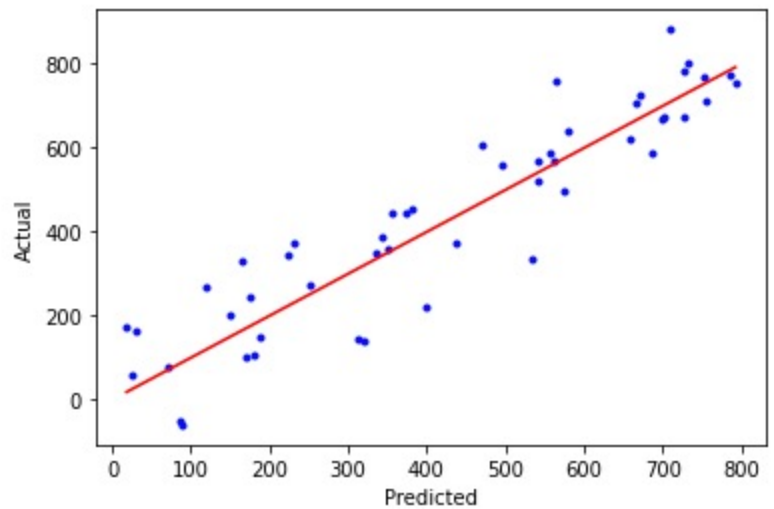
Root Mean Squared Error (RMSE)

$$RMSE = \sqrt{\frac{1}{n}\sum_{n=1}^{n}(y_i - \hat{y}_i)^2}$$

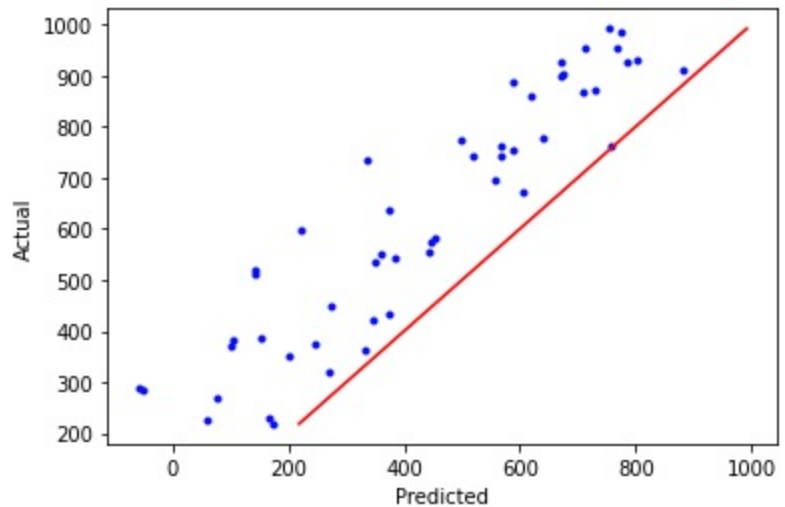
Mean Absolute Error (MAE)

$$MAE = \frac{1}{n}\sum_{n=1}^{n}(|y_i - \hat{y}_i|)$$

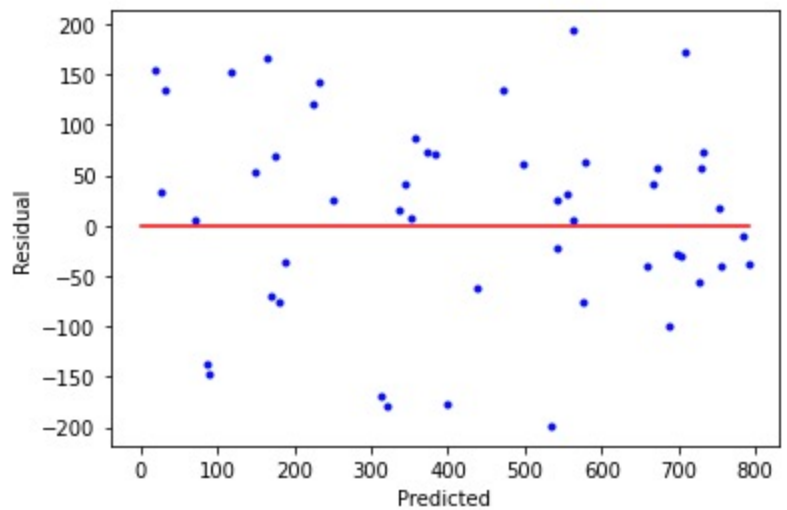
Predicted vs. Actual Plots



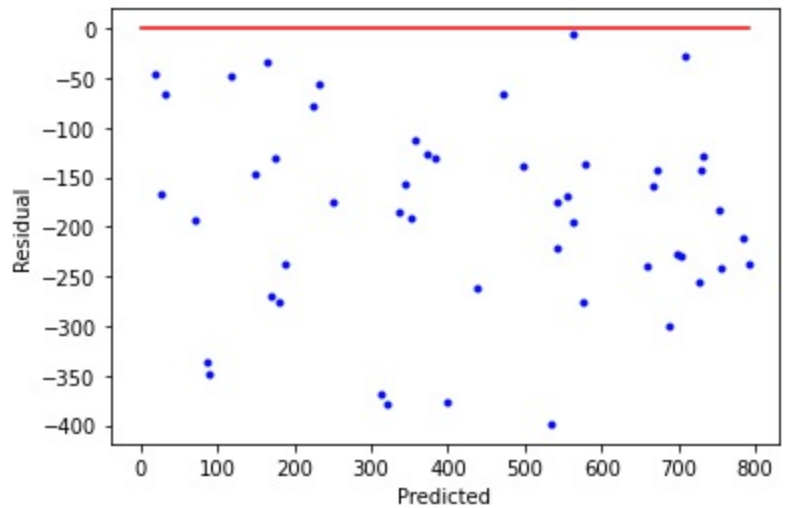
Predicted vs. Actual Plots



Residual Plots



Residual Plots



Your Turn