Loss Function:

$$Loss = \frac{1}{n}\sum_{i=0}^{n}(yi - \widehat{yi})^2$$

$$Loss = \frac{1}{n}\sum_{i=0}^{n}(y_i - (mx_i + c))^2$$

$$Loss = \frac{1}{n}\sum_{i=0}^{n}(y_i - mx_i - c)^2$$

Derivative Loss function to m:

$$\frac{\partial}{\partial m} = \frac{2}{n}\sum_{i=0}^{n}(y_i - mx_i - c)(-x_i)$$

$$\frac{\partial}{\partial m} = -\frac{2}{n}\sum_{i=0}^{n}(y_i - (mx_i + c))(x_i)$$

$$\frac{\partial}{\partial m} = -\frac{2}{n}\sum_{i=0}^{n}(y_i - \widehat{y_i})(x_i)$$

Derivative Loss function to C:

$$\frac{\partial}{\partial c} = \frac{2}{n}\sum_{i=0}^{n}(y_i - mx_i - c)(-1)$$

$$\frac{\partial}{\partial c} = -\frac{2}{n}\sum_{i=0}^{n}(y_i - mx_i - c)$$

$$\frac{\partial}{\partial c} = -\frac{2}{n}\sum_{i=0}^{n}(y_i - (mx_i + c))$$

$$\frac{\partial}{\partial c} = -\frac{2}{n}\sum_{i=0}^{n}(y_i - \widehat{yi})$$