

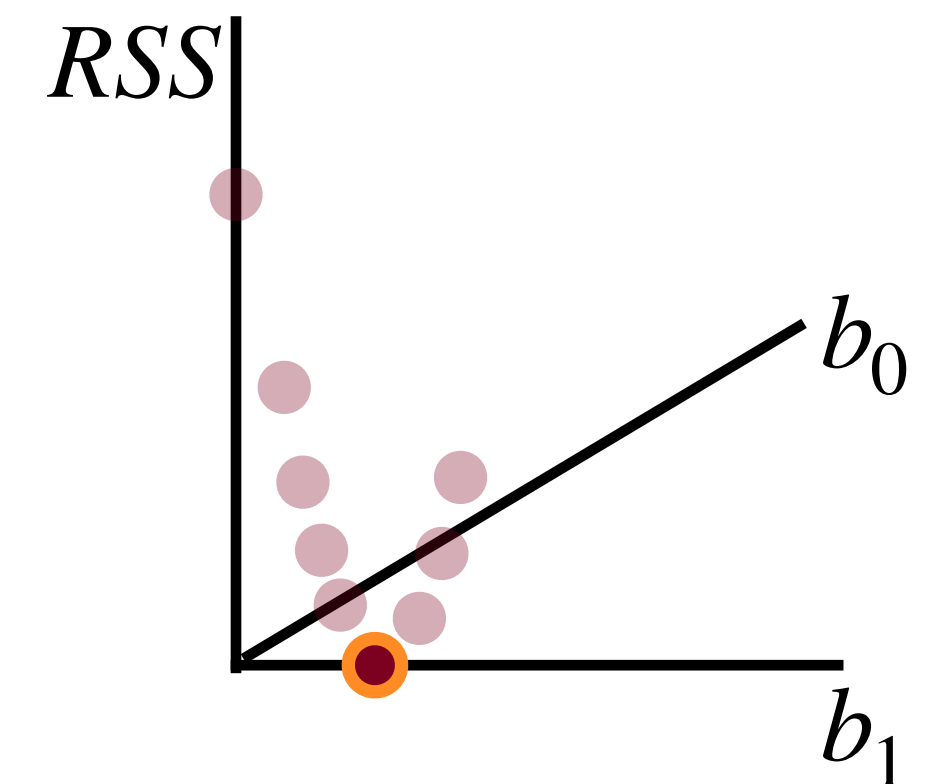
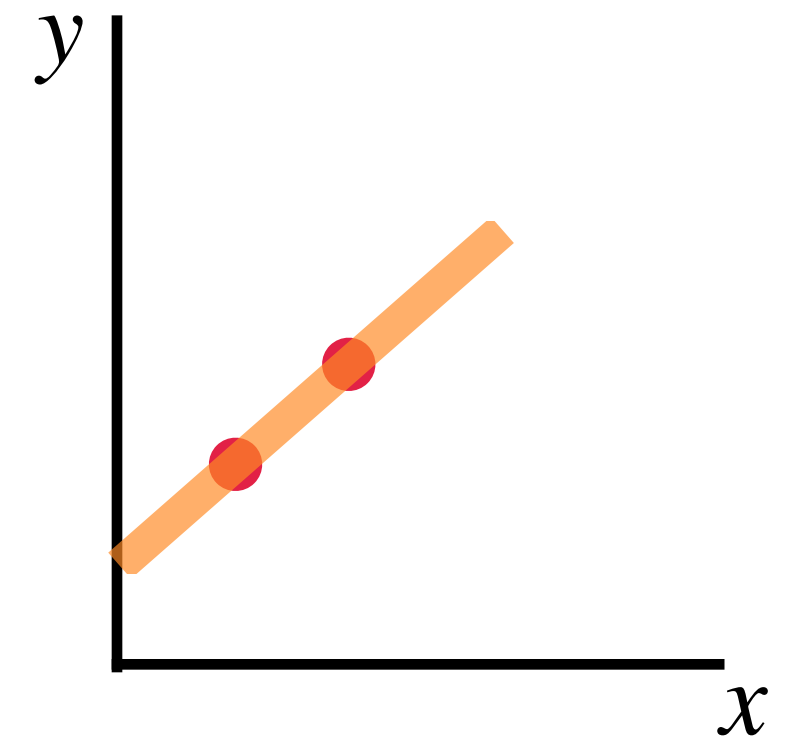
# Example: Very Simple Linear Regression

Gradient:

$$\begin{bmatrix} \frac{\partial RSS}{\partial b_0} \\ \frac{\partial RSS}{\partial b_1} \end{bmatrix} = \begin{bmatrix} -2 \sum_i^N (y_i - (b_0 + b_1 x_i)) \\ -2 \sum_i^N x_i (y_i - (b_0 + b_1 x_i)) \end{bmatrix}$$

Repeat until  $RSS$  is doesn't reduce significantly anymore  
in this toy example, it happens at

$$b_0 = 1, b_1 = 1 \implies RSS = 0$$



# Back to Our Neural Network

