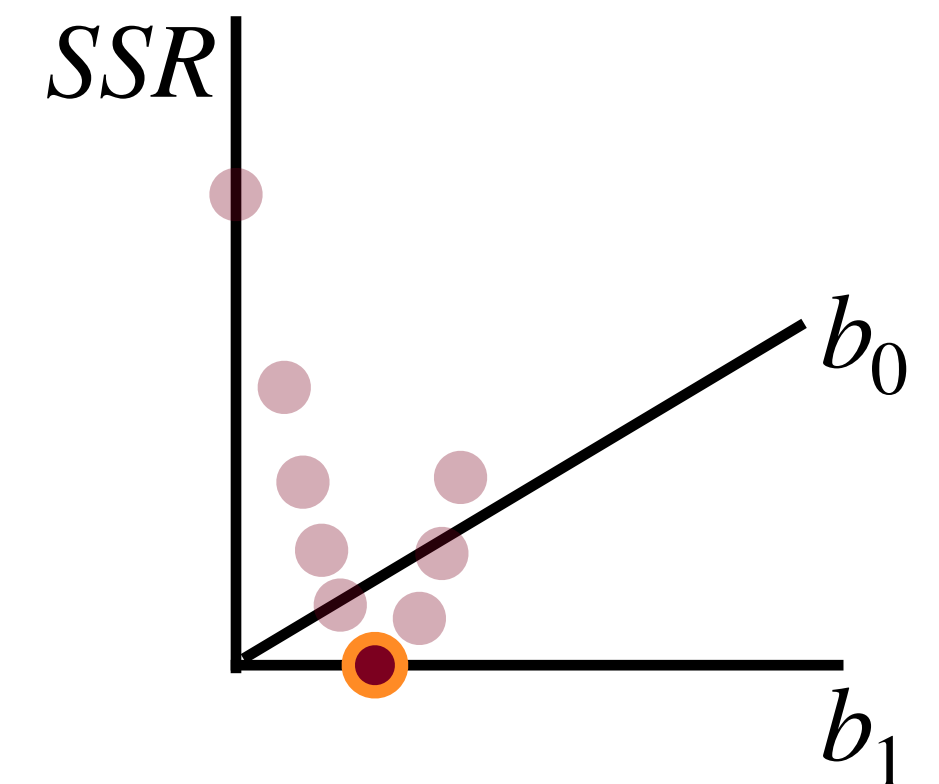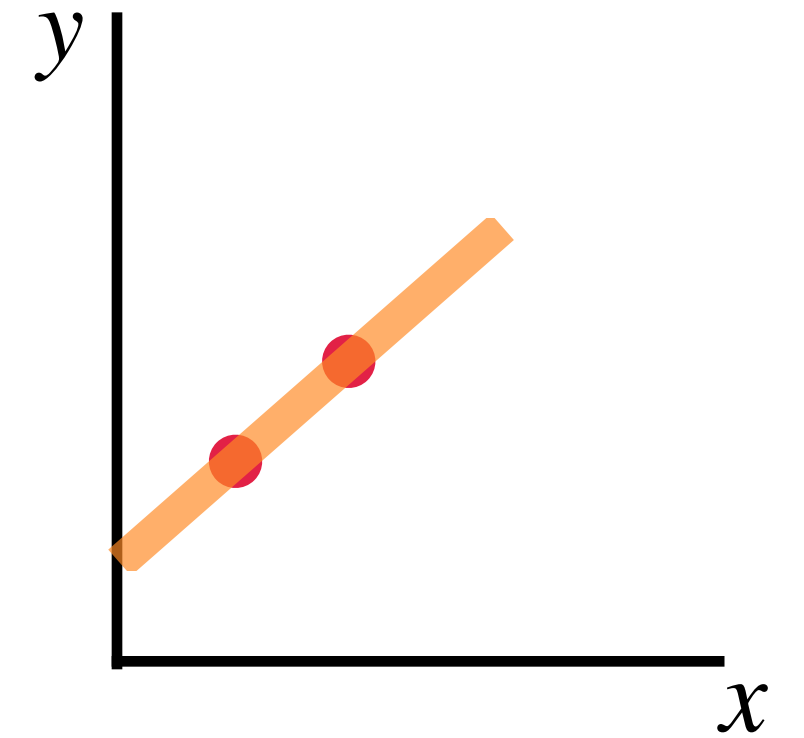# Example: Very Simple Linear Regression

Gradient:

$$\begin{bmatrix} \dfrac{\partial RSS}{\partial b_0} \\[2em] \dfrac{\partial RSS}{\partial b_1} \end{bmatrix} = \begin{bmatrix} -2\sum_i^N (y_i - (b_0 + b_1 x_i)) \\[1.5em] -2\sum_i^N x_i(y_i - (b_0 + b_1 x_i)) \end{bmatrix}$$

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