1. $y = w1 * x1 + w2 * x2 + w3 * x3 + w4 * x4 + w5 * x5 + b$

Consider the simple equation for a straight line.

$\hat{y} = xw + b$
Here w stands for the weight of the values and b stands for the bias value.

Considering mean square error equation
$l = (y - \hat{y})^2$

$$\frac{dl}{dw} = \frac{dl}{d\hat{y}} * \frac{d\hat{y}}{dw}$$

This is what we get with we differentiate l with respect to w.
For our loss function, we may use the chain rule and get

$$\frac{dl}{dw} = -2 * (y - \hat{y}) * x + 0$$

Inorder to update the weights, we may use Wnew=Wold- $\alpha\dfrac{dl}{dw}$, W new is the weight and Wold is the old weight…

So if we are doing the same for 5 variables, we consider the loss function as

$$\frac{dl}{dwj} = -\frac{2}{n}\sum_{i->n} xij * (yi - \hat{y}i)$$

$$\frac{dl}{db} = -\frac{2}{n}\sum_{i->n} (yi - \hat{y}i)$$

wj=wj-$\alpha$*$\dfrac{dl}{dwj}$

b=b-$\alpha$*$\dfrac{dl}{db}$

These are equations for updated weights and biases