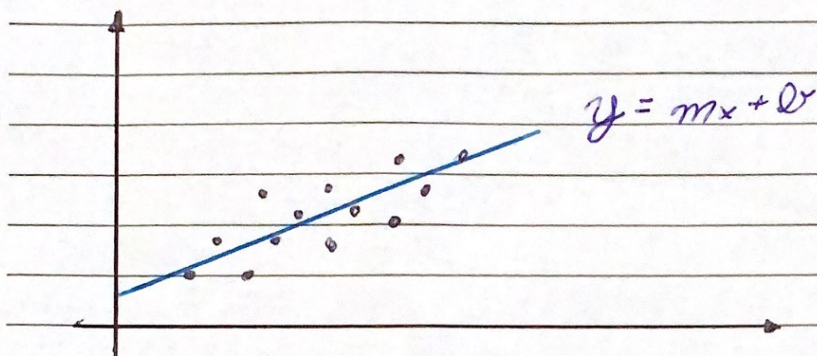


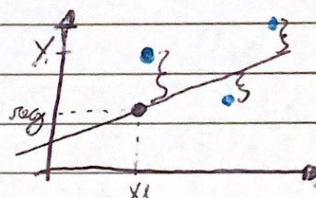
REGRESSÃO LINEAR



$$\text{reg} = mx + b$$

$$\text{CUSTO} = \sum_{i=1}^n (\text{reg}_i - x_i)^2$$

erro



$$m \leftarrow m - \alpha \cdot \frac{\partial \text{CUSTO}}{\partial m}$$



$$b \leftarrow b - \beta \cdot \frac{\partial \text{CUSTO}}{\partial b}$$

$$\frac{\partial \text{CUSTO}}{\partial m} = \frac{\partial \text{CUSTO}}{\partial \text{erro}} \cdot \frac{\partial \text{erro}}{\partial m} = \sum_{i=1}^n 2 \cdot \text{erro}_i \cdot x_i = 2 \sum_{i=1}^n (mx_i + b - y_i) x_i$$

$$\frac{\partial \text{CUSTO}}{\partial b} = \frac{\partial \text{CUSTO}}{\partial \text{erro}} \cdot \frac{\partial \text{erro}}{\partial b} = \sum_{i=1}^n 2 \cdot \text{erro}_i \cdot 1 = 2 \sum_{i=1}^n (mx_i + b - y_i)$$

LOGICA DO ALGORITMO: QUANTO MAIS LONGE ESTIVER DOS VALORES/DADOS, MAIOR SERÁ O PASSO PARA A DEFINIÇÃO DE UMA NOVA RETA.