

The complete learning algorithm

How does the algorithm look like now?

1. The algorithm
 - a. **Initialise:** w, b randomly
 - b. **Iterate over data**
 - i. Compute \hat{y}
 - ii. Compute $L(w, b)$
 - iii. $w_{t+1} = w_t - \eta \Delta w_t$
 - iv. $b_{t+1} = b_t + \eta \Delta b_t$
 - v. Pytorch/Tensorflow have functions to compute $\frac{\partial L}{\partial w}$ and $\frac{\partial L}{\partial b}$
 - c. **Till satisfied**
 - i. Number of epochs is reached (ie 1000 passes/epochs)
 - ii. Continue till $\text{Loss} < \varepsilon$ (some defined value)
 - iii. Continue till $\text{Loss}(w, b)_{t+1} \approx \text{Loss}(w, b)_t$