from last week ⇒

Broadcasting in pytorch

$$[7] * \begin{bmatrix} 1 \\ 2 \\ 3 \\ 4 \end{bmatrix} = \begin{bmatrix} 7 \\ 7 \\ 7 \\ 7 \end{bmatrix} * \begin{bmatrix} 1 \\ 2 \\ 3 \\ 4 \end{bmatrix}$$

* elementwise multiplication.

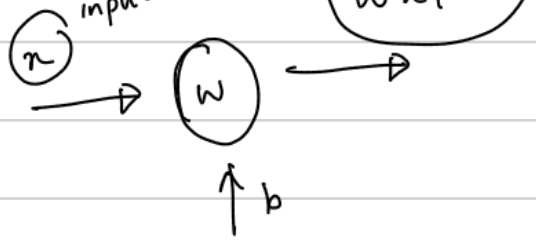
pytorch Training loop:

1) Data loader
   - Training data into batches
   - make easy to iterate the dataset
   - split in to small batches. (gpu utilization)
2) Model
   - NN or the function that make predictions
   - Forward pass
   - learnable parameters
3) loss function
   - How wrong your predictions
   - compare predictions with accepted values
4) Optimizer
   - update model parameters

Iterator

Single neuron

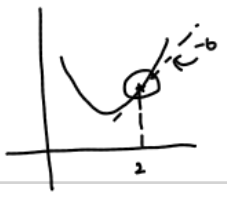
$y = mx + c$ (feature)

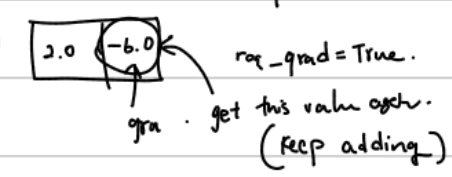


Why we set gradiant zero?

loss = $(w-5)^2$

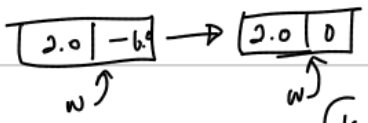
grad ⇒ $2w-10$





Second time it says = -12.

every loop we have to make the gradiant zero.



(look at note book)