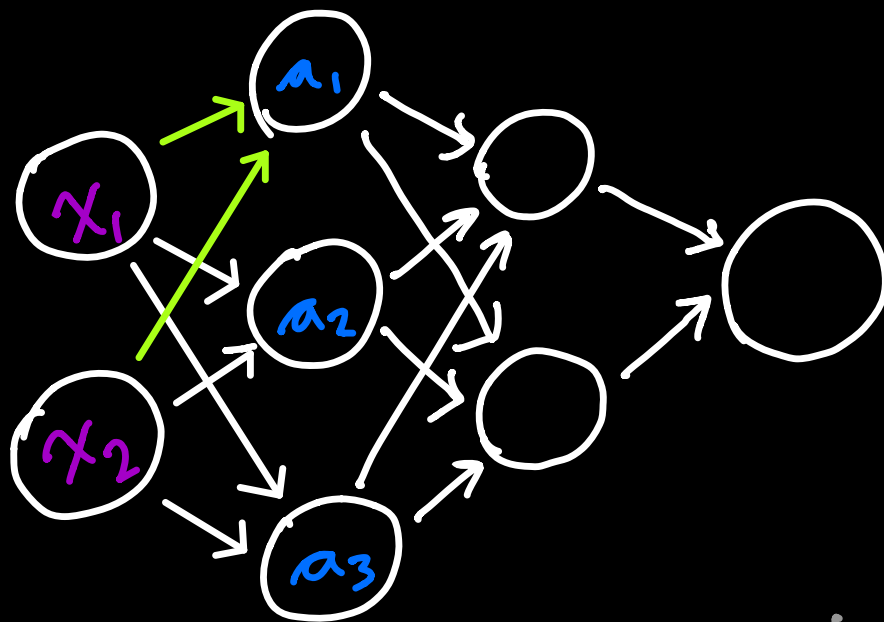


if $\sum_{i=1}^n w_i x_i > \text{threshold}$, output 1
 otherwise, output 0

$$b \equiv -\text{threshold}$$

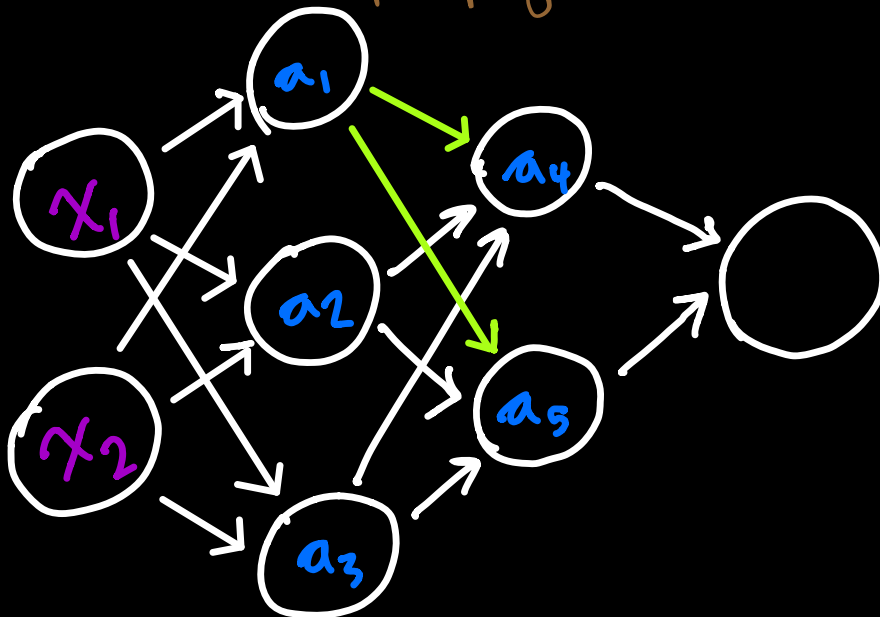
output $\begin{cases} 1 & \text{if } w \cdot x + b > 0 \\ 0 & \text{otherwise} \end{cases}$

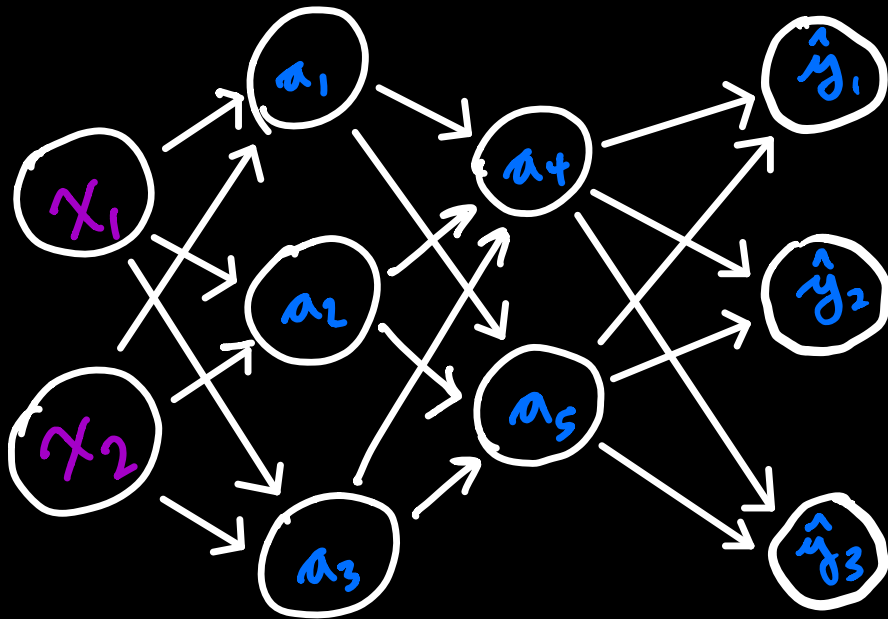
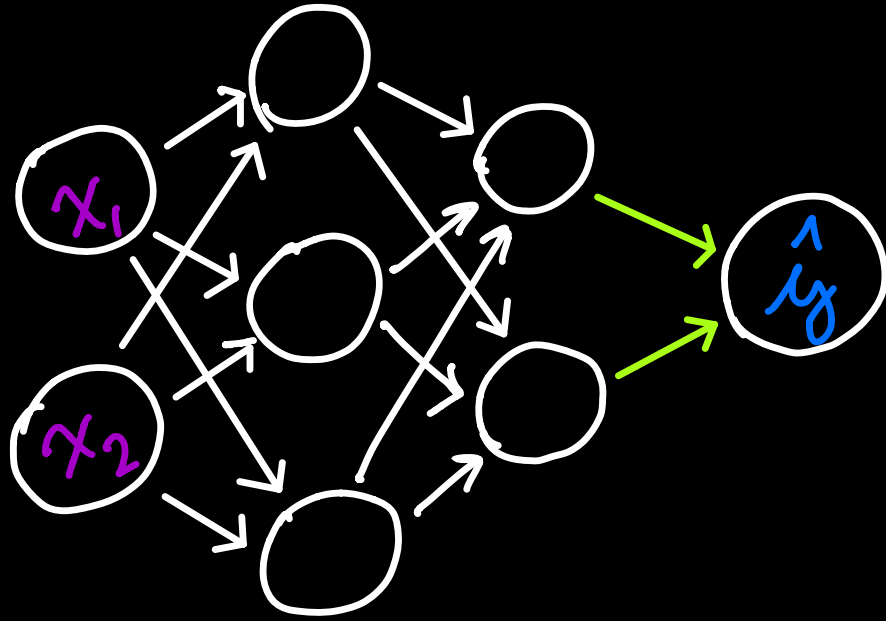
$$w \cdot x + b$$

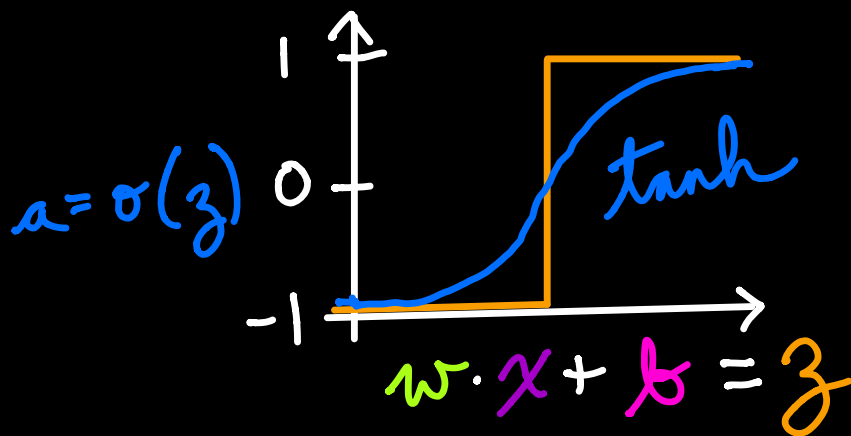
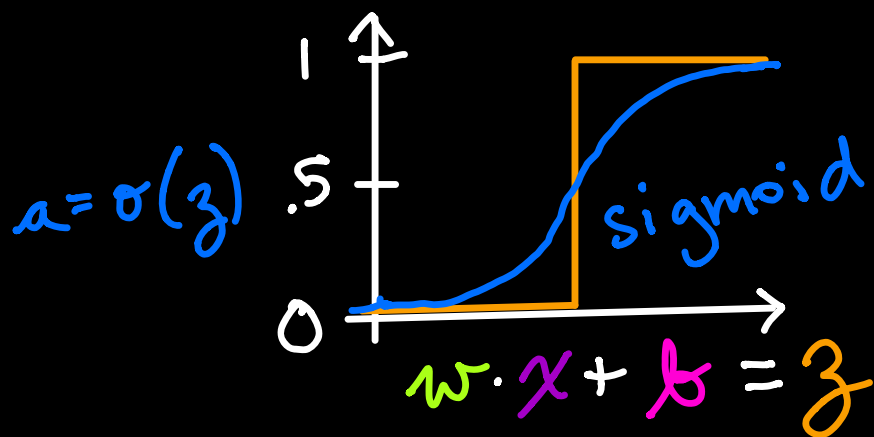
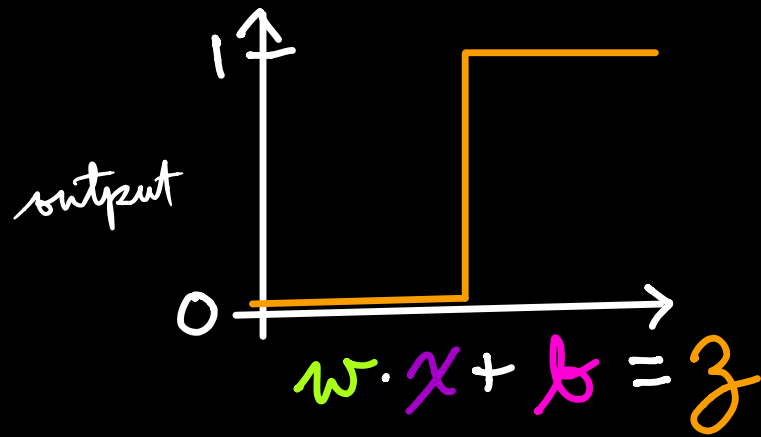


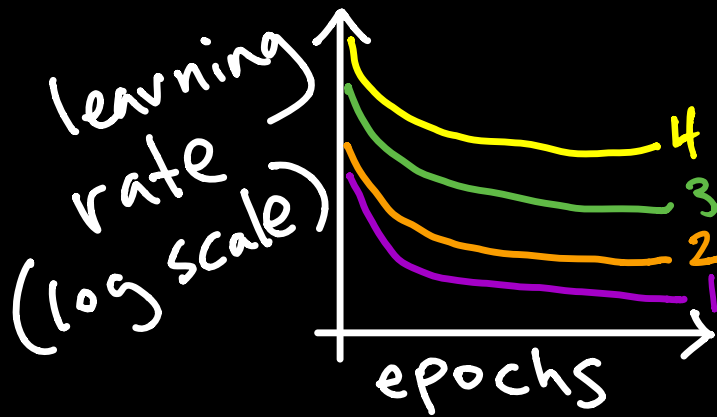
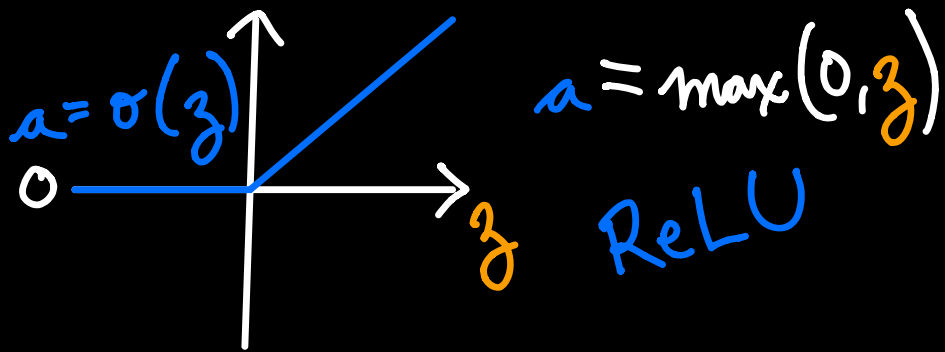
layer 1 2 3 4
 hidden layer 1 2

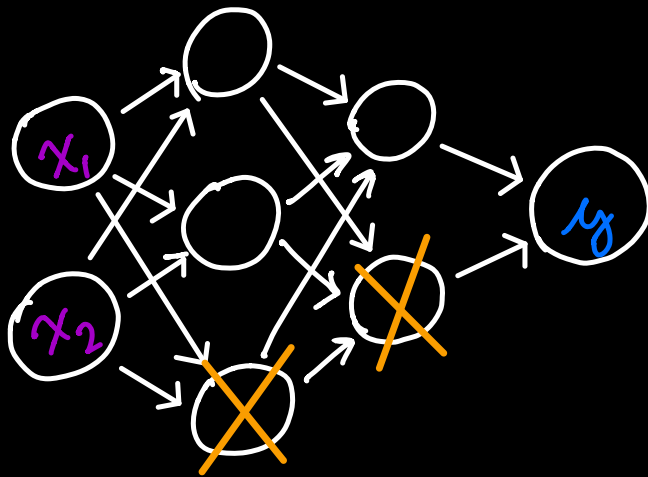
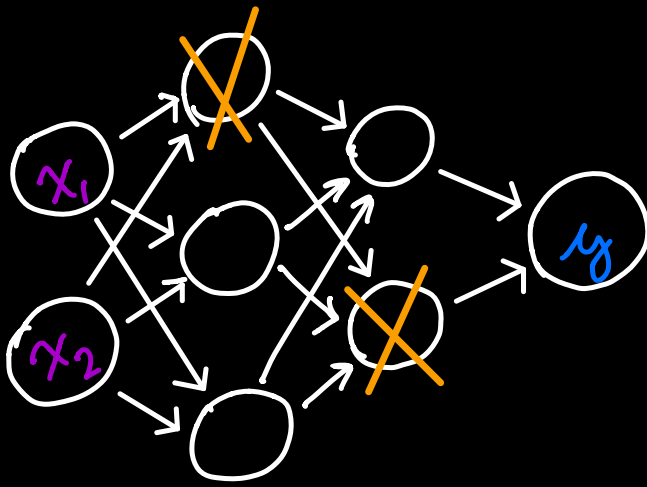
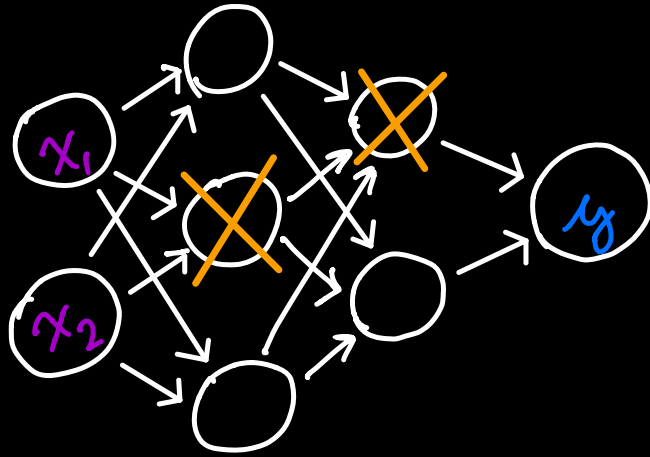
→ forward propagation
 ← backpropagation

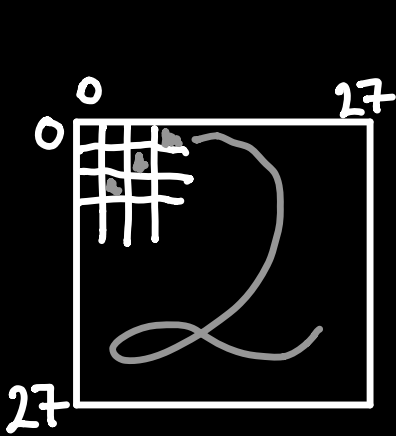












MNIST

$28 \times 28 = 784$ input

↓
64 sigmoid hidden

↓
10 softmax output

$$w \cdot x + b$$

