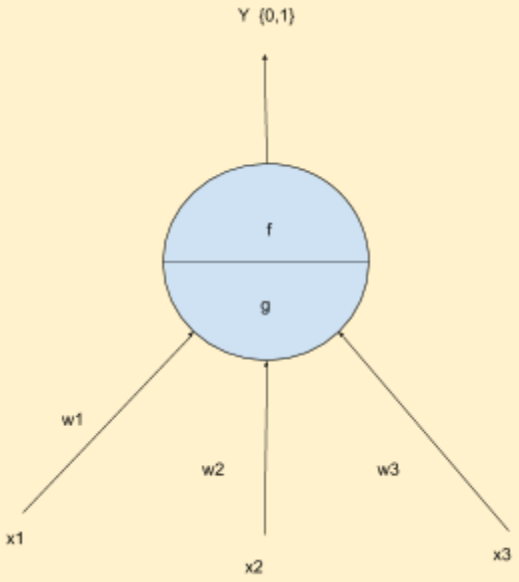
PadhAI: MP Neuron & Perceptron

One Fourth Labs

Perceptron Model



1. $\hat{y}$ = 1 if $\Sigma^{n}_{i=1} w_i x_i >= b$
2. $\hat{y}$ = 0 otherwise
3. Comparing with MP Neuron

MP Neuron	Perceptron
$\hat{y}$ = 1 if $\Sigma^{n}_{i=1} x_i >= b$ $\hat{y}$ = 0 otherwise	$\hat{y}$ = 1 if $\Sigma^{n}_{i=1} w_i x_i >= b$ $\hat{y}$ = 0 otherwise
Boolean inputs ☹	Real inputs 😃
Linear ☹	Linear ☹
Inputs are not weighted ☹	Weights for each input 😃
Adjustable threshold 😃	Adjustable threshold 😃

What do weights allow us to do?

1. Each parameter has a different effect on the output, some more, some less, some directly proportional and some, inversely proportional.
2. Weights(θ/w) allow us to do this effectively.
3. x = [0, 0.19, 0.64, 1, 1, 0] features
4. w = [0.3, 0.4, -0.3, 0.1, 0.5] weights
5. x.w = $\Sigma^{n}_{i=1} w_i x_i$
6. $\hat{y}$ = 1 (if x.w >= b)
7. $\hat{y}$ = 0 otherwise