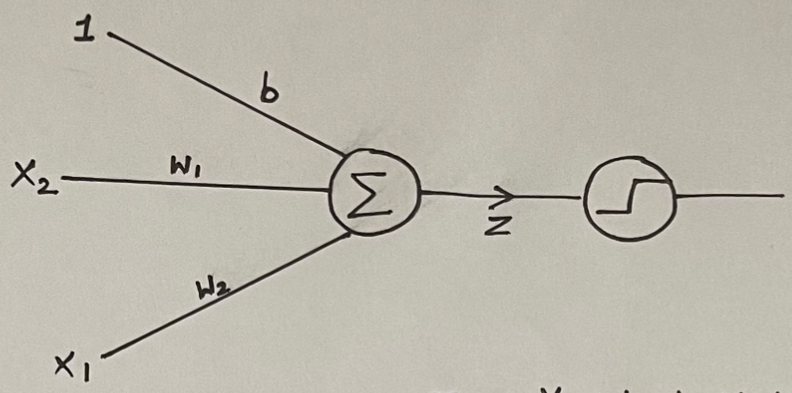
PERCEPTRON

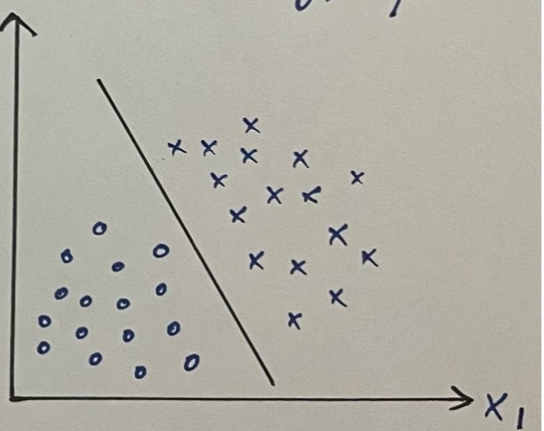


$$z = X_1 W_1 + X_2 W_2 + b$$

$$y = f(z) = \begin{cases} 1 & z \geq 0 \\ 0 & z < 0 \end{cases}$$

Perceptron is also known as binary classifier. It divides the graph into 2 regions.

For 2D dividing parameter is a line
For 3D dividing parameter is a plane
And from 4D onwards dividing parameter is a hyperplane.



- Perceptron can only be used for linear or sort of linear data only for any dimension.

For any number of dimensions :

$$f(z) = W_1 X_1 + W_2 X_2 + \ldots . W_n X_n + b$$

where w is weights associated
b is known as the bias added to it