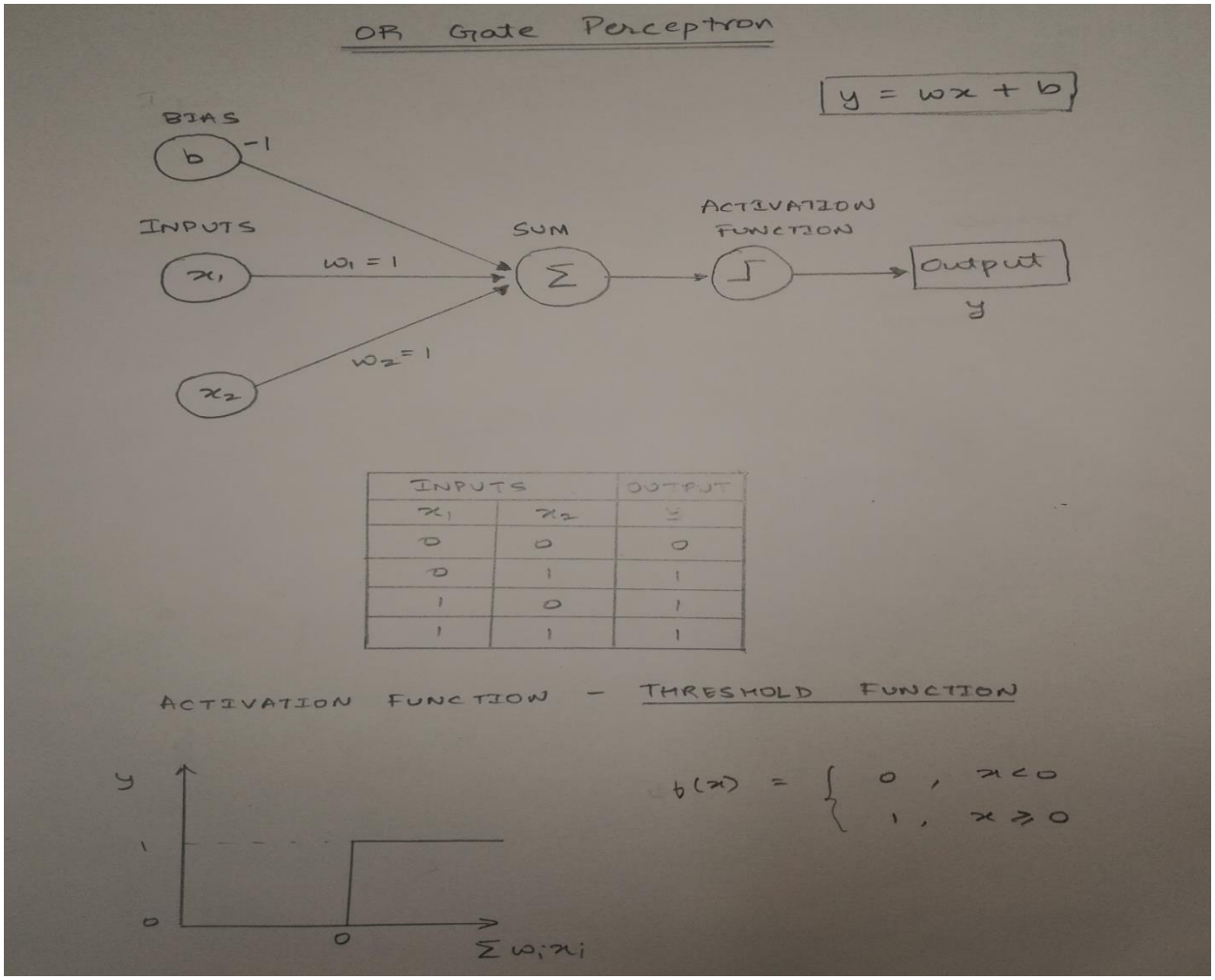
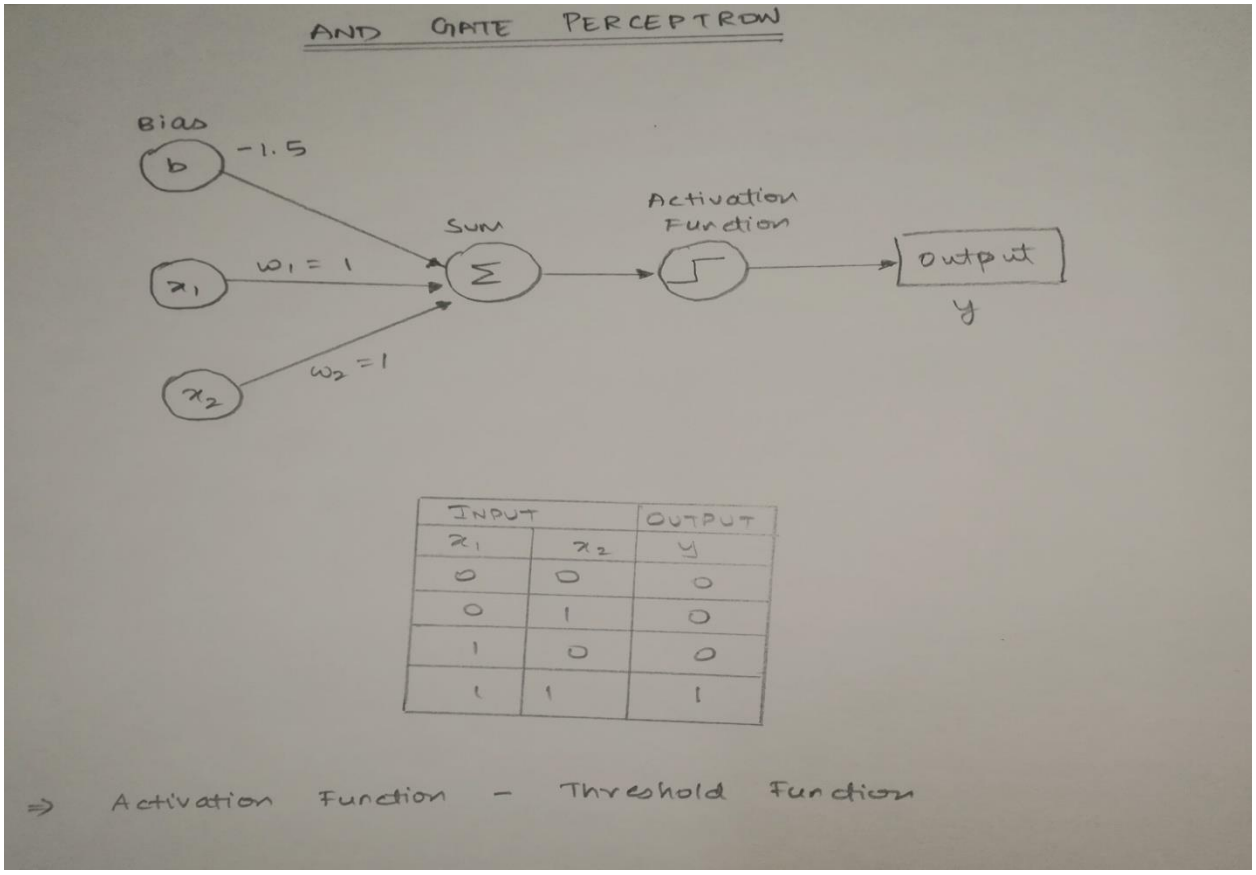
OR Gate Perceptron



Initially, random weights and bias are given to the perceptron. If the output does not match with the ground truth, the neural network backpropagates to change the weights and bias. The inputs are multiplied with the corresponding weights. A summation of this is taken and a constant i.e, bias is added to it. Finally a threshold function (activation function) is applied to the summation function to predict the output. The threshold function gives a value between 0 to 1. If the predicted output is close to 1 then the result is true else the process of learning continues.

AND Gate Perceptron



To find correct weights and bias, Y=wx+b ,

- Initially, w1=1 , w2=1 and b=-1
  Comparing predicted output with ground true

1. 1*0+1*0-1 = -1 <0 (Threshold Function) = 0 (True)
2. 1*0+1*1-1 = 0 >= 0(Threshold Function) = 1 (False)

- W1=1,w2=1 and change b=-1.5
  These new weights and bias satisfy with the ground true. Hence these values are correct for an AND gate.