

Assignment No: 1

1. Explain the differences between 'soft' computing and 'hard' computing with relevant examples.
2. Describe the architecture of a backpropagation neural network and its training algorithm.
3. Consider a single-layer perceptron trained on the following data:

Input: (1, 0), Desired Output: 1

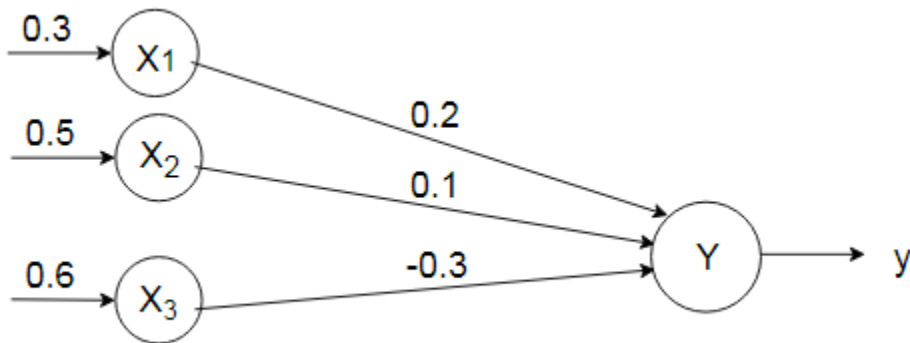
Input: (0, 1), Desired Output: 0

Input: (1, 1), Desired Output: 1

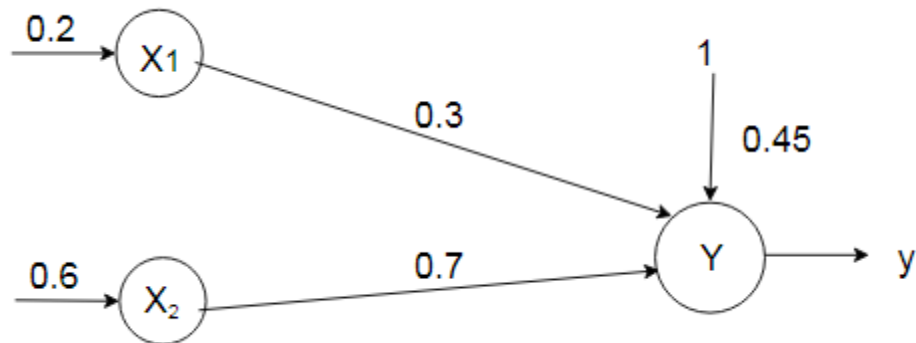
Input: (0, 0), Desired Output: 0

Using a learning rate of 0.1, calculate the weight updates after one epoch.

4. For the network shown in figure, calculate the net input to the neuron?



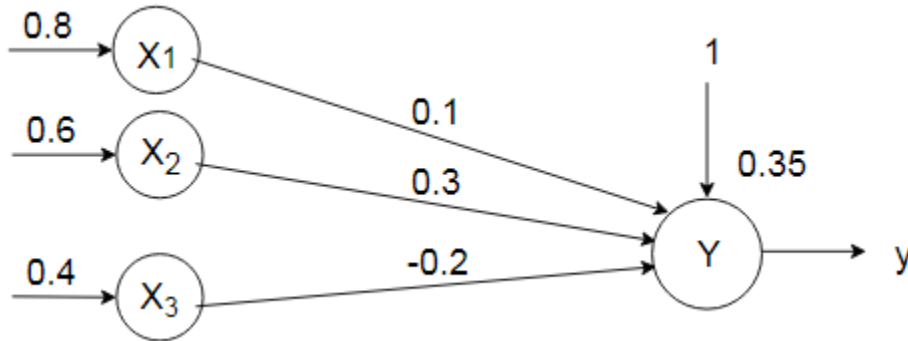
5. Calculate the net input for the network shown in figure with bias included in the network?



6. Obtain the output of the neuron Y for the network shown in the figure using activation functions as

(i) Binary Sigmoidal and

(ii) Bipolar Sigmoidal.



7. Use McCulloch-Pitts Neuron to implement AND NOT function (take binary data representation).

8. Implement XOR function using M-P neuron. (consider Binary Data)