**Tutorial**

1. Calculate the output y of a three input neuron with bias. The input feature vector is (x1, x2, x3)= (0.8,0.6,0.4) and weight values are [w1,w2,w3, b] =[0.2, 0.1, -0.3, 0.35]. Use binary Sigmoid function as activation function?

2. Distinguish between overfitting and underfitting. How can it affect model generalization?

3. What is the sequence of the following tasks in a perceptron?
   Initialize weights of perceptron randomly
   Go to the next batch of dataset
   If the prediction does not match the output, change the weights
   For a sample input, compute an output

4. Can you comment on the convergence of the network, if we use a learning rate that's too large?