Assignment 4.1

1) calculate what will be the output value of y of the unit for each of the following input patterns:

Ans)

W1 = 2

W2 = -4

W3 = 1

Inputs given are

1. inputs => 1,0,0, so the output will be y’ = activation(y) = activation(x1\*w1+x2\*w2+x3\*w3) = activation(2)= 1

2. inputs => 0,1,1 , so y’ = activation(-3)= 0

3. inputs => 1,0,1, so y’ = activation(3) = 1

4. inputs => 1,1,1, so y’ = activation(-1) = 0

2) what is an epoch?

Ans)

An epoch is a term used in machine learning and indicates the number of passes of the entire training dataset the machine learning algorithm has completed. Datasets are usually grouped into batches (especially when the amount of data is very large). Some people use the term iteration loosely and refer to putting one batch through the model as an iteration.

If the batch size is the whole training dataset then the number of epochs is the number of iterations. For practical reasons, this is usually not the case. Many models are created with more than one epoch. The general relation where dataset size is d, number of epochs is e, number of iterations is i, and batch size is b would be d\*e = i\*b.

Determining how many epochs a model should run to train is based on many parameters related to both the data itself and the goal of the model, and while there have been efforts to turn this process into an algorithm, often a deep understanding of the data itself is indispensable.