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ANN2

ANN_XNOR

In this assignment I implemented ANN back propagation algorithm on XNOR GATE using multilayer perceptron algorithm, Sigmoid function and its derivative.

In this, there are neurons_input, neurons_hidden, neurons_output layer.

```
neurons_input = 2 # number of neurons in input layer
neurons_hidden = 6 # number of neurons in hidden layer
neurons_output = 1 # number of neurons in output layer
```

Input Sequence for XNOR gate and Corresponding output is :-

```
#XNOR Gate INPUT
X = np.array([[0,0],[0,1],[1,0],[1,1]])

#XNOR Gate Output
y = np.array([[1],[0],[0],[1]])
```

Then for no. of epochs, using Sigmoid and its derivative multilayer perceptron is implemented, and weights are updated according to errors in each epoch iteration. In the end for verification output is predicted and if its same as Actual output then perception is working.

```
Predicted Output Values for XNOR Gate using Multilayer Perceptron -
[[1.]
 [0.]
 [0.]
 [1.]]
```