XOR

INPUT		OUTPUT
A	B	A XOR B
0	0	0
0	1	1
1	0	1
1	1	0

Develop XOR model with neural network in Colab notebook.

1. Can all input of XOR be classified into two groups, 0 and 1, by one linear hyperplane?
2. A standard solution:
    - Use two linear hyperplanes in the first neural network layer, which is expected to produce two different linear classifications. This implies a Dense layer of two neurons.
    - This first layer is called “hidden layer”.
    - The output layer takes the output from neurons of hidden layer, as its input, and produces the combination of the two classifications as the network output.

In the following steps, study with any online resource to clarify the topic(s) as necessary.

3. Experiment with different optimizers and their tuning training parameters.
    a. SGD
    b. Adam
4. Experiment with different activation functions.
    - relu
    - tanh
    - sigmoid
    - hard_sigmoid

5. A challenge: Attempt to create XOR model with only one hidden neuron.