1. What would be the minimum number of neurons needed to solve 1-bit XOR? Justify.

Ans: not really sure what 1-bit XOR means.

1. What are the minimum number of neurons to solve 2-bit XOR + NOT gate? Justify.

Ans: 2 neurons will be the minimum number of neurons (in the hidden layer) needed as XOR is not a linear function. A single neuron can approximate a function only if it is a linear function like y = mx + c. So, a minimum of 2 neurons are required for non-linear functions.

1. Show your justification by using the same settings for the ANN as designed above.
2. What happens when the neurons exceed the minimum?

Ans: The ANN will not be able to approximate the XOR function.