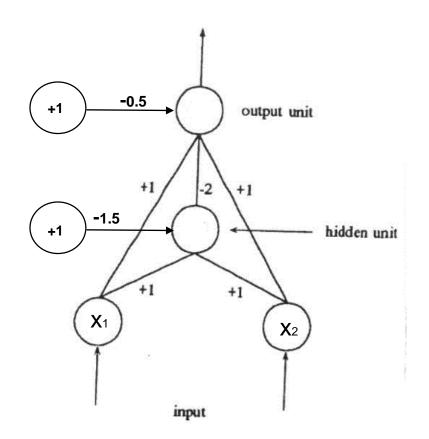
HW# 6 Application of Neural Network (CpE 520) Due date: Oct. 1st , 2019

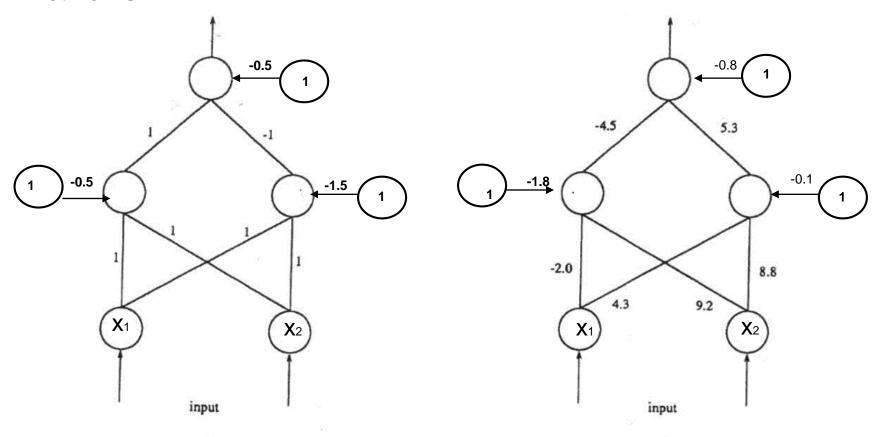
Read pp. 1-66 from Neural Networks and Machine Learning, Simon Haykin

Q.1: Figure below shows a neural network involving a single hidden neuron for solving XOR problem. Show this network solves the XOR problem by constructing (a) decision regions, and (b) a truth table for the network

| Input | Output | |
|-------|--------|---|
| 00 | 0 | 1 |
| 01 | 1 | 100000000000000000000000000000000000000 |
| 10 | 1 | |
| 11 | 0 | |



Q.2: For the following two networks show if they solve the XOR problem by constructing (a) their decision regions, and (b) their truth tables for the networks.



| Input | Output |
|-------|--------|
| 00 | 0 |
| 01 | 1 |
| 10 | 1 |
| 11 | 0 |

| Input | Output |
|-------|--------|
| 00 | 0 |
| 01 | 1 |
| 10 | 1 |
| 11 | 0 |