CDS Week 6 Lab

✓ **Correct**   2/2 Points

1. If we design a neural network that takes X as input and W as weight to give the output O where O = sigmoid(W^T*X) then what is the shape of the decision boundary? *

◉ Linear

◯ Non-Linear

✓ **Correct**   2/2 Points

2. What is the interpretation of WX+b in perceptron? *

- [✓] W^T*X + b = 0 is the equation of the hyperplane.

- [✓] If X is a point outside of the hyperplane, W^T*X + b indicates the distance of X from the hyperplane. W is unit length.

- [✓] W is a vector and orthogonal to the hyperplane.

✕ **Incorrect**

3. Can Linear Regression be used to solve classification? Justify your answer. *

Yes? But linear regression cost function is very sensitive to outliers. Hence given some outliers, the l

Correct answers:
> It can but there will be certain problems. Linear regression cost function is very sensitive to outliers. Hence given some outliers, the line predicted by linear regression can shift toward the outliers. As a result, points that were originally classified correctly by the line would be misclassified once it sees the outliers.

✓ **Correct** 2/2 Points

4. Can a multi-layer neural network without non-linear activation function model non-linear decision boundary? *

○ Yes

◉ No

○ Maybe

✓ **Correct**   2/2 Points

5. I want to create a neural network to model XOR function and here is the network: given input X I feed it to a hidden layer with 2 units and then an output layer with 1 unit and sigmoid activation function to model the final output to be either 0 or 1 i.e., treating the problem as classification. Can this neural network successfully model XOR? *

○ Yes

◉ No

○ Maybe