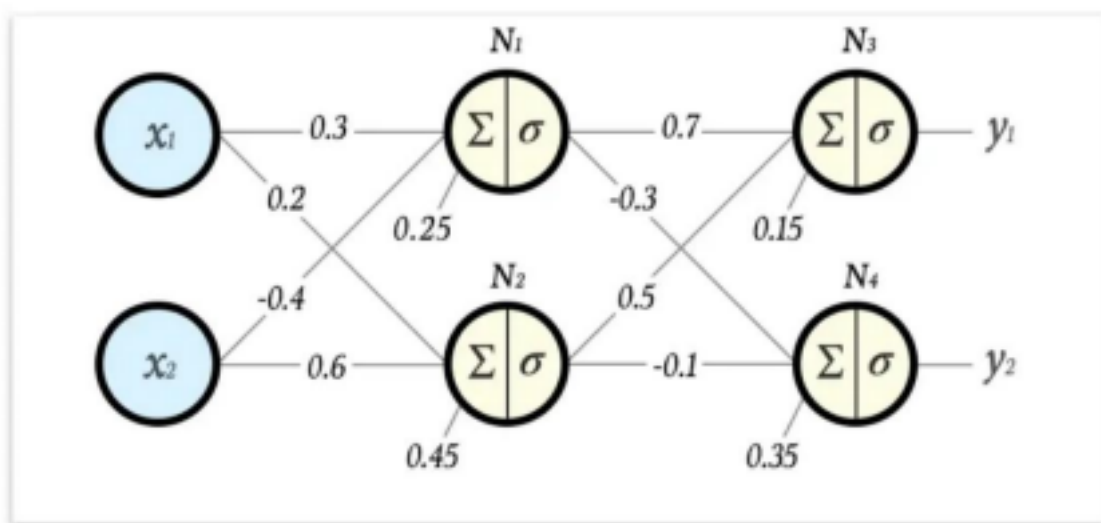


Sheet 2 machine learning

Question 1

- 1- Use Activation Function Sigmoid Find N1 and N2
- 2- Use Activation Function Tanh Find N1 and N2
- 3- Do you Recommend using Tanh/Sigmoid/SoftMax in the Classification Layer?
- 4- Give $X = [1, 5]$ what is the recommended class and Why?
- 5- Give $X = [3, 6]$ what is the recommended class and Why?



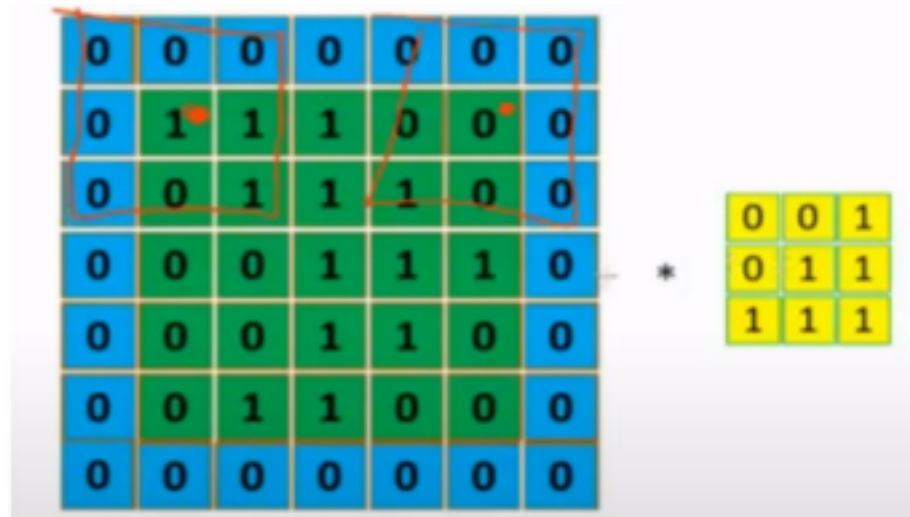
Question 2

- 1- What is the output of below Image in Case of using Max Pooling
- 2- What is the output of below Image in Case of using Min Pooling
- 3- What is the output of below Image in Case of using Average Pooling

10	1	2	4	3
9	3	8	6	1
5	7	6	2	4
3	4	-8	5	2
-1	8	9	10	7

Question 3

- 1- What is the output of the below after applying filter with stride 1?
- 2- What is the output of the below after applying filter with stride 2?



Padding 'same':

$$\text{Padding (p)} = (f-1)/2$$

Output size:

$$((N+2P - f) / s) + 1$$

Padding 'valid':

Padding (p) = no padding

Output size:

$$((N - f) / s) + 1$$