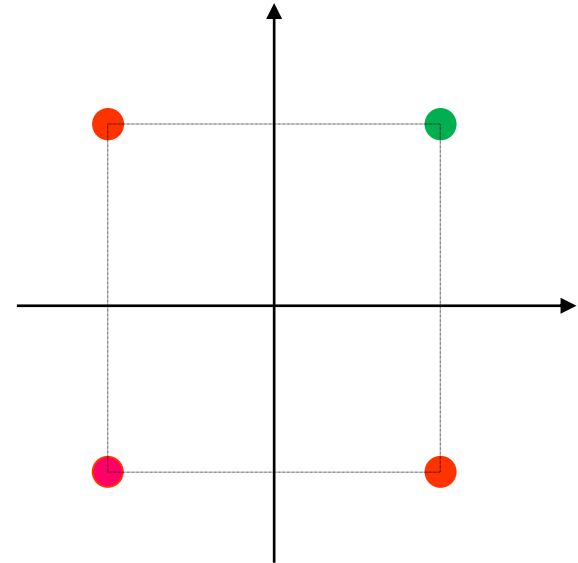


Quizzes for lecture 12 (1)

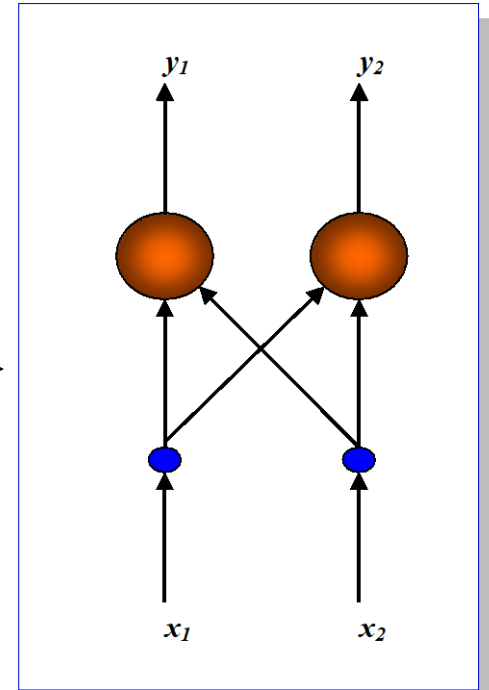
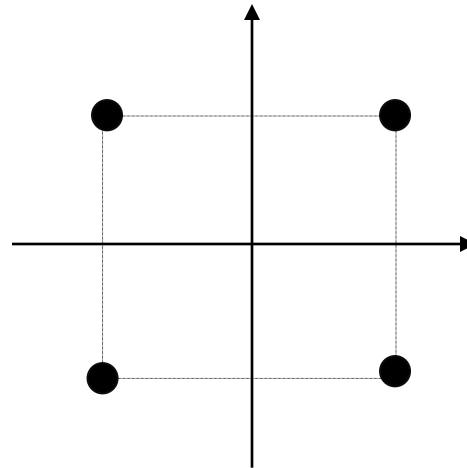
- Find the weights w_1 , w_2 , and w_3 of a neuron for classifying the four vertices of a square into two groups.
- The data and the teacher signals are given below:
 - $(-1,-1)$, $(1,-1)$, $(-1,1)$, $(1,1)$
 - -1 , -1 , -1 , 1
- There are infinitely many solutions. Please just provide one solution.



$$w_1x_1 + w_2x_2 - w_3 = 0$$

Quizzes for lecture 12 (2)

- Suppose that the data and their teacher signals are given by:
 - $(-1,-1), (1,-1), (-1,1), (1,1)$
 - $(-1,1), (1,-1), (1,1), (1,1)$
- Find two neurons to solve the problem. Just provide one solution.



$$\text{Neuron1} : w_{11}x_1 + w_{12}x_2 - w_{13} = 0$$

$$\text{Neuron2} : w_{21}x_1 + w_{22}x_2 - w_{23} = 0$$