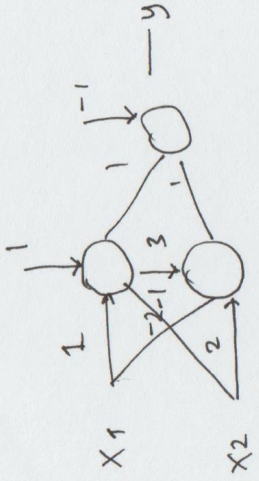


Assignment 11:



where $\phi(v)$ is heaviside unit step.

$$\phi(v) = \begin{cases} 1 & \text{if } v > 0 \\ 0 & \text{if } v \leq 0 \end{cases}$$

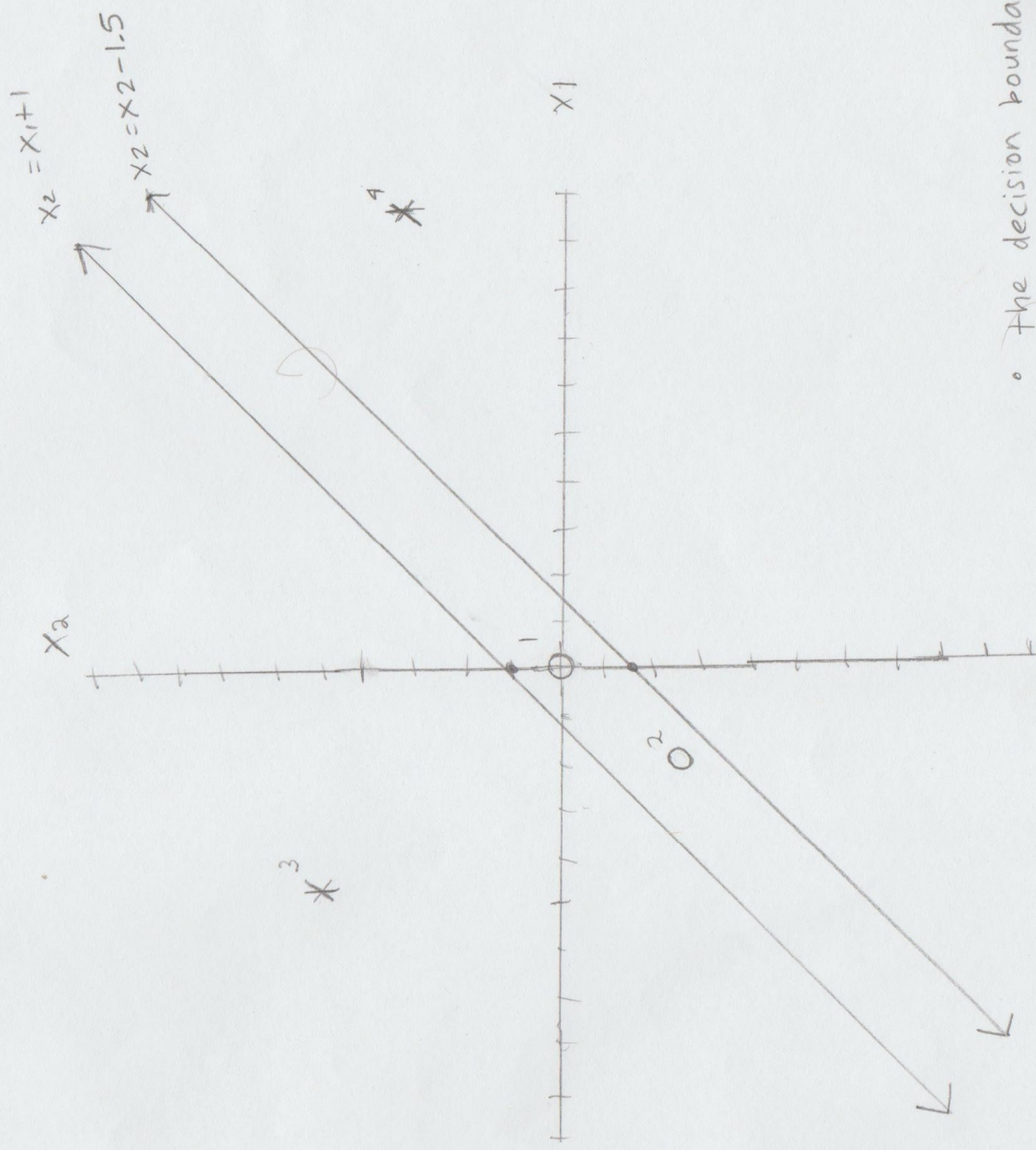
$$① \quad y = \phi[\phi(x_1 - x_2 + 1) + \phi(-2x_1 + 2x_2 + 3) - 1]$$

$$② \quad y_0 = \phi[\phi(0 - 0 + 1) + \phi(0 + 0 + 3) - 1] = \phi(\phi(1) + \phi(3) - 1) = 1$$

$$y_1 = \phi[\phi(-2 + 2.5 + 1) + \phi(4 + (-5) + 3) - 1] = \phi(\phi(1.5) + \phi(2) - 1) = 1$$

$$y_2 = \dots 0$$

$$y_3 = \dots 0$$



• the decision boundary separates both classes