Problem (Learning Rule)

Taking Initial weight vector $w^1 = \begin{bmatrix} 1 \\ -1 \\ 0 \\ 0.5 \end{bmatrix}$ and

input 3 vectors $x_1 = \begin{bmatrix} 1 \\ -2 \\ 1.5 \\ 0 \end{bmatrix}$, $x_2 = \begin{bmatrix} 0 \\ 0.5 \\ -2 \\ -1.5 \end{bmatrix}$, $x_3 = \begin{bmatrix} 0 \\ 1 \\ -1 \\ 1.5 \end{bmatrix}$

Calculate updated weights with binary and continious bipolar activation fn with taking $c=1$ with the help of Hebbian learning rule.

Taking initial weight vector $w = \begin{bmatrix} 1 \\ -1 \\ 0 \\ 0.5 \end{bmatrix}$ and

3 input as vectors $x_1 = \begin{bmatrix} 1 \\ -2 \\ 0 \\ -1 \end{bmatrix}$, $x_2 = \begin{bmatrix} 0 \\ 1.5 \\ -0.5 \\ -1 \end{bmatrix}$, $x_3 = \begin{bmatrix} -1 \\ 1 \\ 0.5 \\ -1 \end{bmatrix}$

The learning constant $c = 0.1$. The teacher's described responses for x_1, x_2, x_3 are $d_1 = -1$, $d_2 = -1$, and $d_3 = 1$ respectively.

Calculate updated weights with 3 inputs and teacher's desired responses with perceptron learning rule.