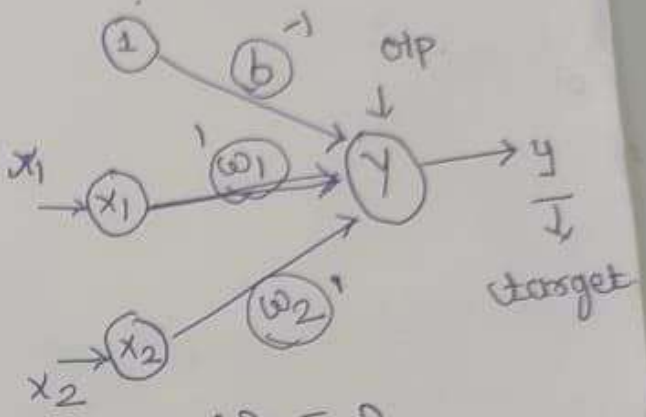
Single layer Perceptron:-

x_1	x_2	t
1	1	1
1	-1	-1
-1	1	-1
-1	-1	-1



$w_1 = 0$
$w_2 = 0$
$b = 0.$

$y_{in} = b + x_1 w_1 + x_2 w_2$

Round: 1

Input x_1	Input x_2	Target (t)	Net i/p (y_{in})	o/p	weight change Δw_1	Δw_2	Δb
1	1	1	0	0	1	1	1
1	-1	-1	1	1	-1	1	-1
-1	1	-1	2	1	+1	-1	-1
-1	-1	-1	-3	-1	0	0	0

weights w_1 (0)	w_2 (0)	b (0)	
1	1	1	
0	2	0	
1	1	-1	
1	1	-1	0

L.R = (1)

$\Delta w_1 = \alpha t x_1$

$\Delta w_2 = \alpha t x_2$

$\Delta b = \alpha t$

$y = f(y_{in}) = \begin{cases} 1 & y_{in} > 0 \\ 0 & = 0 \\ -1 & < 0 \end{cases}$

Round: 2

x_1	x_2	(t)	(y_{in})	O/P	Δw_1	Δw_2	Δb	w_1	w_2	b
				1	0	0	0	1	1	-1
1	1	1	1							
1	-1	-1	-1	-1	0	0	0	1	1	-1
-1	1	-1	-1	-1	0	0	0	1	1	-1
-1	-1	-1	-3	-1	0	0	0	1	1	-1

done by students

$\omega = 0$

x_1	x_2	x_3	x_4	b	(t)
1	1	1	1	1	1
1	-1	-1	-1	1	1
-1	1	1	-1	1	-1
1	-1	-1	1	1	-1