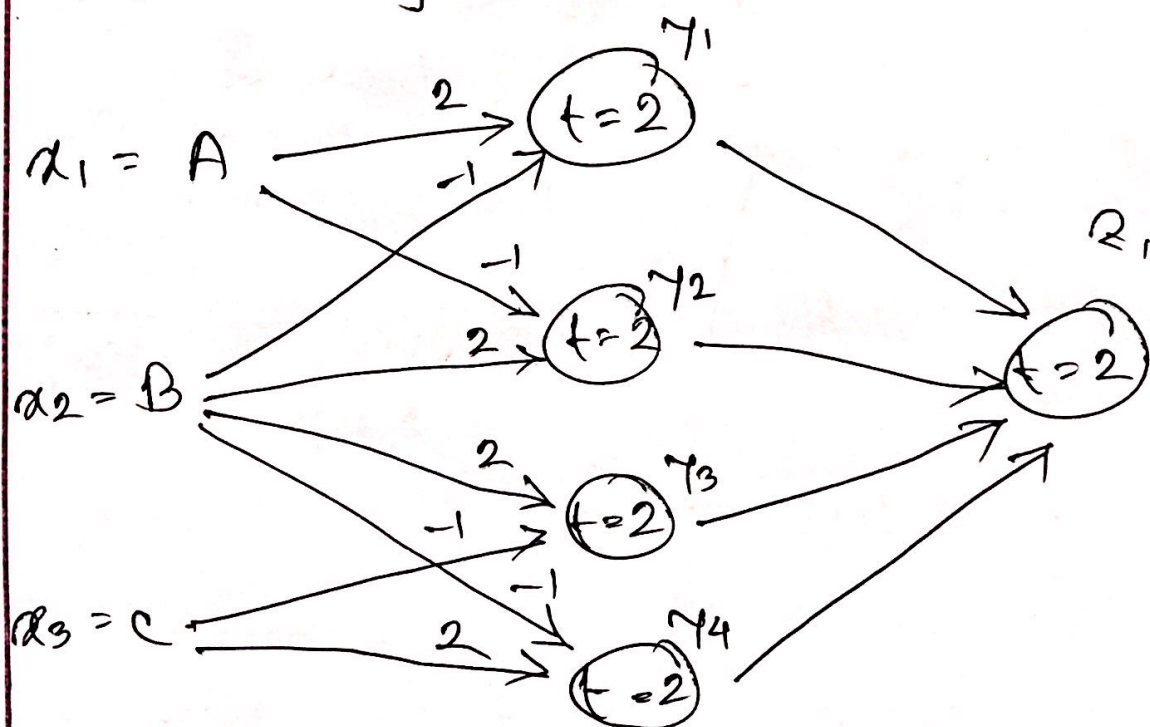


1. Given,

$$F(A, B, C) = AB' + BA' + BC' + CB'$$

A	B	C	F
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

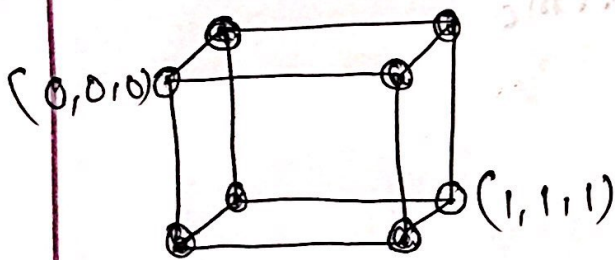


Here,

$$F(A, B, C) = AB' + BA' + BC' + CB' \\ = (A \oplus B) + (B \oplus C)$$

The following boolean logic implements XOR gates. They cannot be linearly separable

3D figure



Except the inputs $(0, 0, 0)$ and $(1, 1, 1)$ all others are excitatory. Only those two are inhibitory. So, we cannot generate such a 2D-plane that can separate the classes. It is a linearly separable.