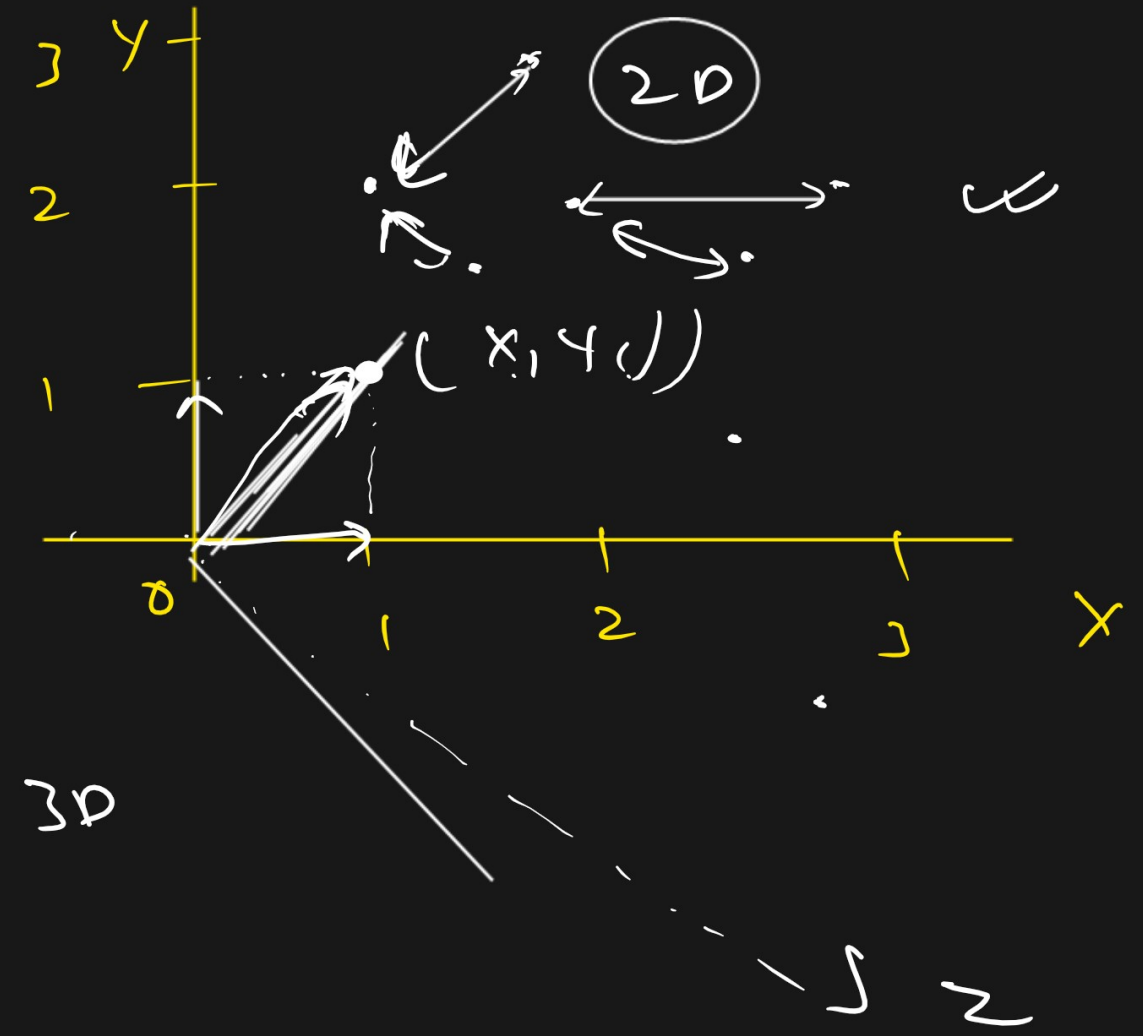


Vector DB

$$10 > 8$$

$$x_1, y_1 = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$

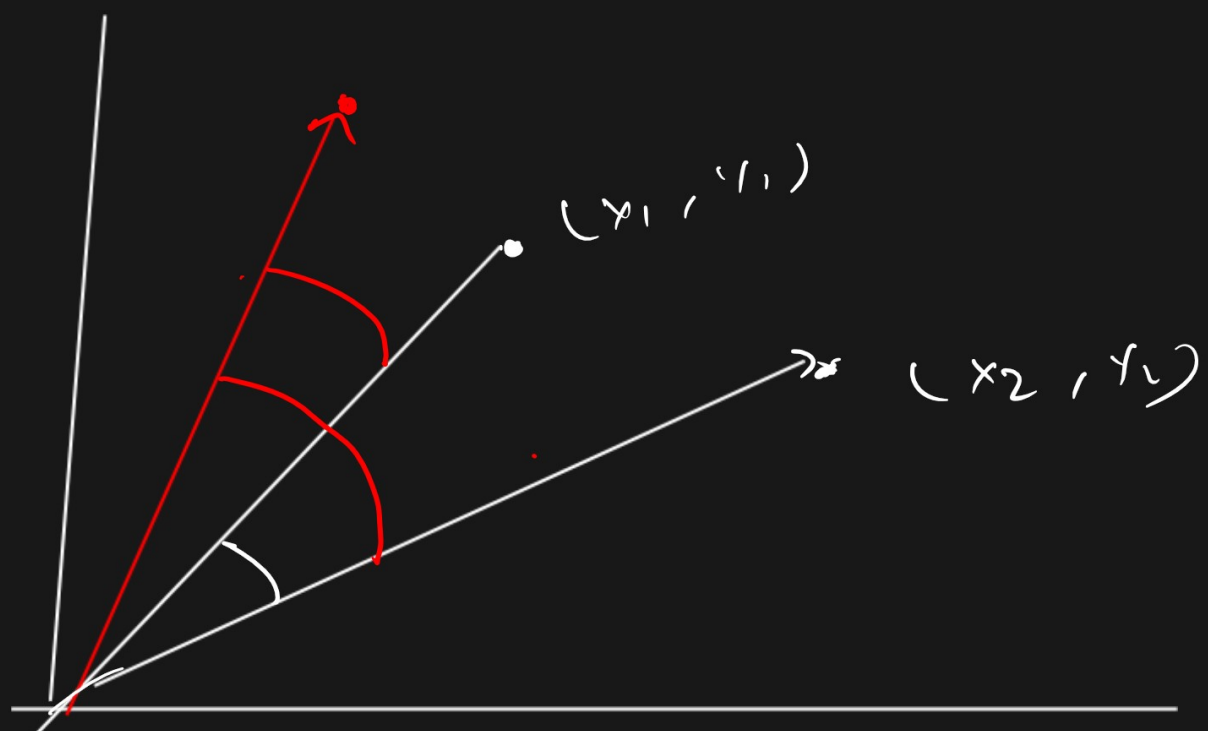


$$(x_1, y_1, z_1) = [1, 0, 2] \rightarrow 3D$$

$$(x_1, y_1, z_1, A_1) =$$

- 1. my name is Sudh - ①
- 2. Sudh is my name - ②
- 3. Apple is red - ③

$$(0, 1)$$



• $ED = \sqrt{(1-1)^2 + (0-0)^2 + (0-1)^2}$

$D1:- [1, 0, 1]$

$D2:- [0, 1, 1]$

$D3:- [1, 1, 0]$ 1, 1, 0 1, 2, 3, 4, 1, 4]

$D4:- [1, 0, 0]$

$\text{Cosine Similarity} = \frac{A \cdot B}{\|A\| \times \|B\|}$

1 \rightarrow highly similar
 0 \rightarrow no similarity
 -1 \rightarrow completely dissimilar

Cosine = $\frac{D4 \cdot D1}{\|D4\| \times \|D1\|} = \frac{1 \times 1 + 0 \times 0 + 0 \times 1}{\sqrt{1^2 + 0^2 + 0^2} \times \sqrt{1^2 + 0^2 + 1^2}}$

= $\frac{1}{1 \times 1.414} = \frac{0.707}{1}$