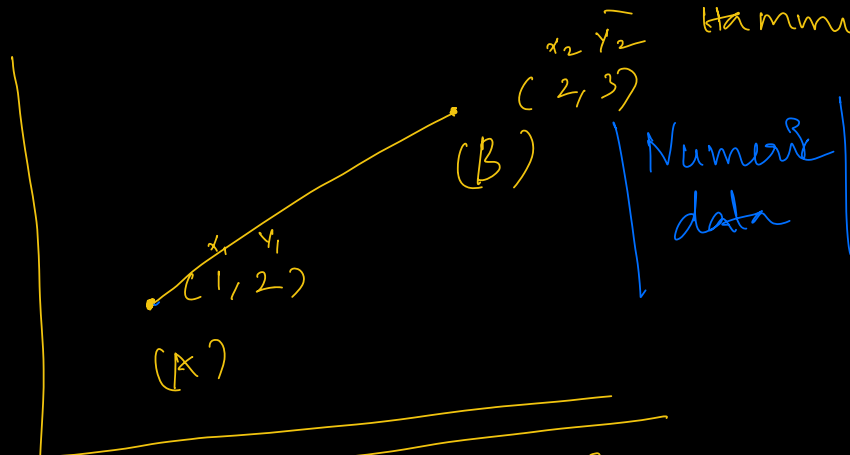


## Euclidean distance

- Manhattan
- Minkowski
- Hamming

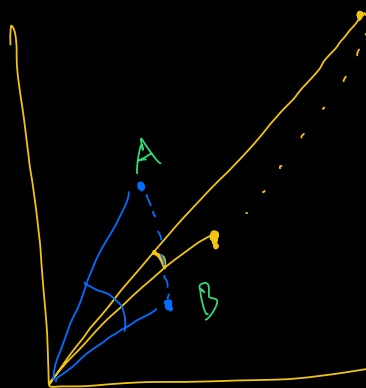


$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

## Cosine similarity

$$\cos 0^\circ = 1 \checkmark$$

$$\cos 90^\circ = 0 \checkmark$$



$$\frac{A \cdot B}{\|A\| \cdot \|B\|} \Rightarrow \frac{A \cdot B}{\sqrt{A^2} \cdot \sqrt{B^2}}$$

Any text similarity application we will rely on cosine similarity

Angle with two points from the origin

2 kids

toys collection

- (3) cars ✓
- (2) doll ✓

- (1) Car ✓
- 5. Kitchh ✓

