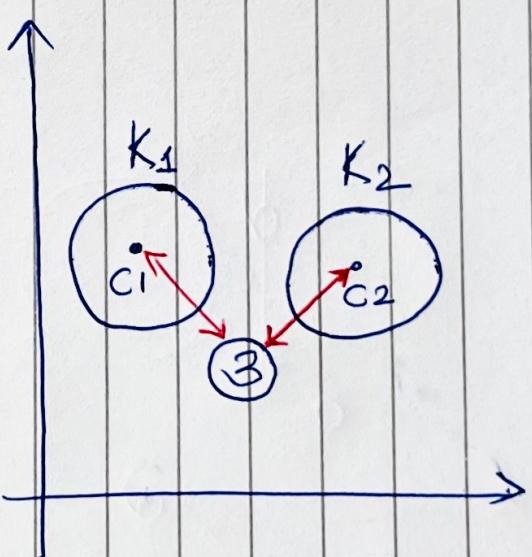


## K-means

- ①
- ②
- ③
- ④
- ⑤



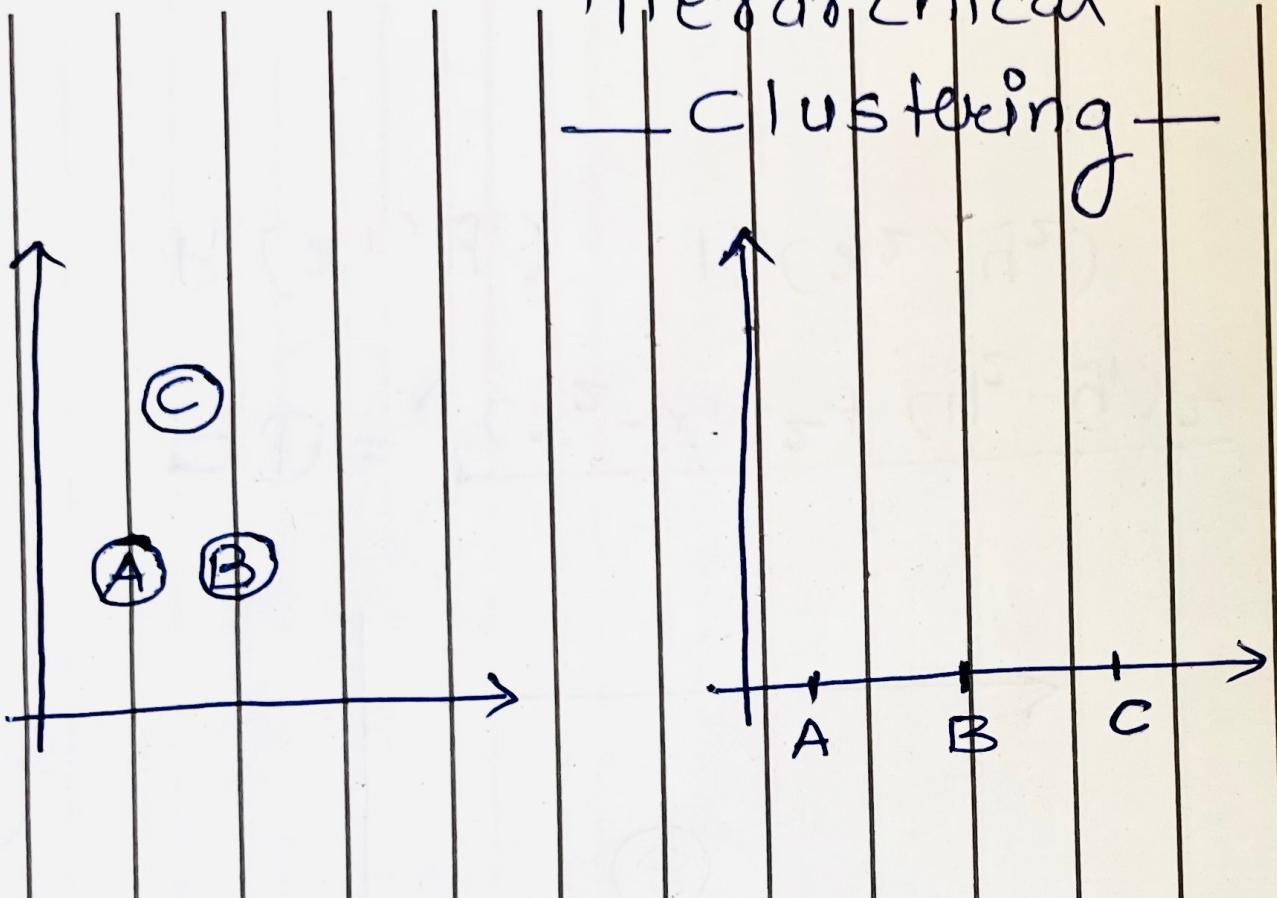
New centroid

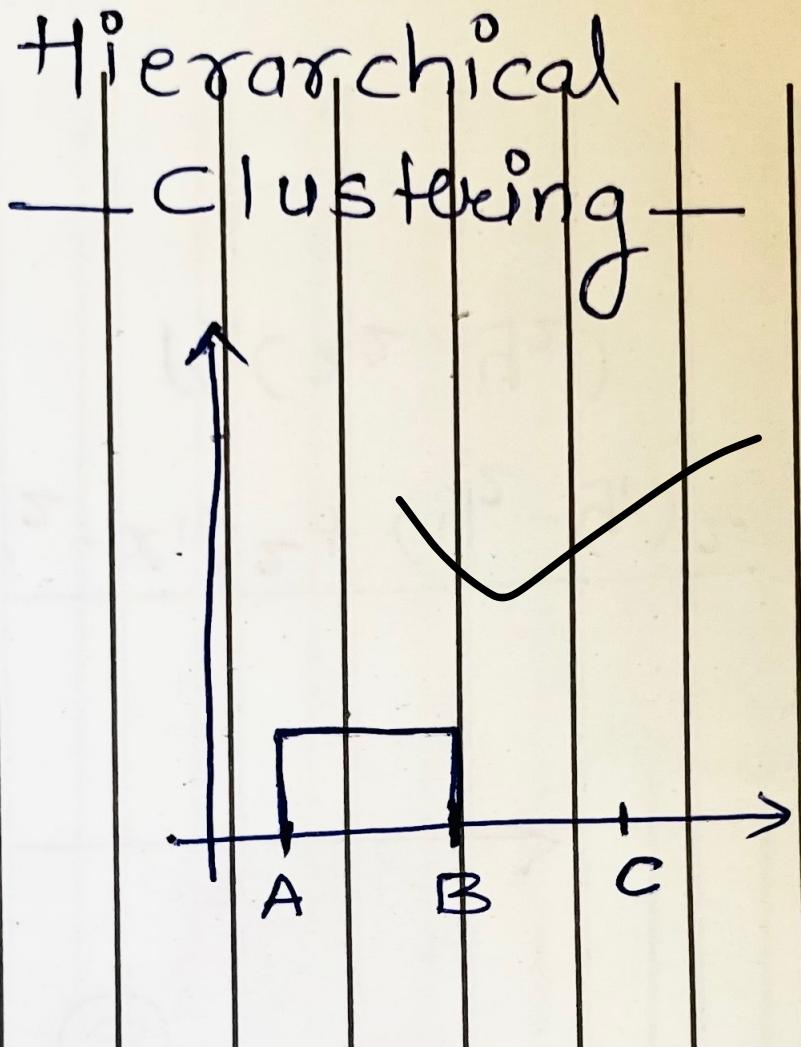
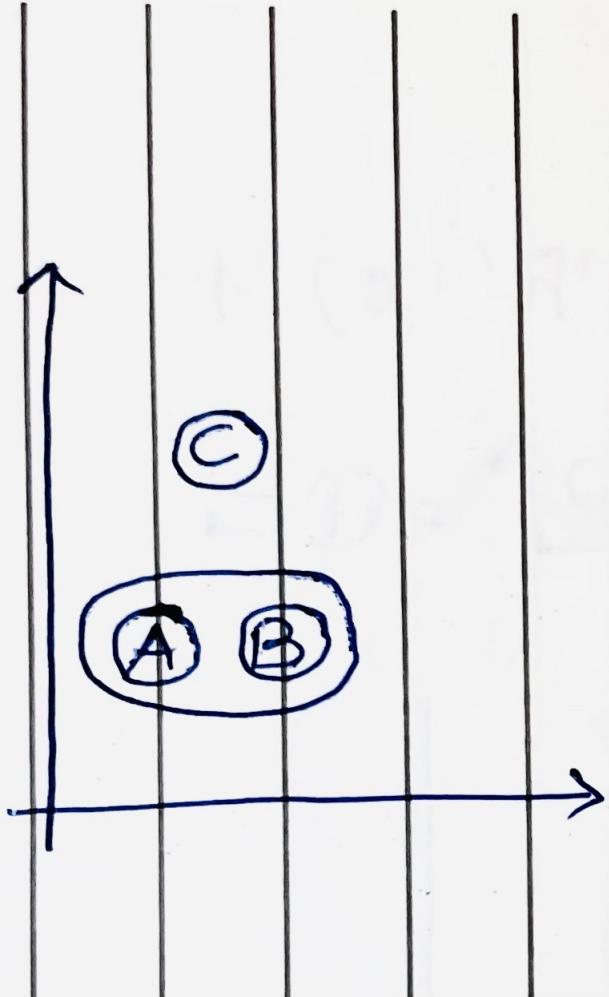
$$C(x,y) = \left( \frac{x_1+x_2}{2}, \frac{y_1+y_2}{2} \right)$$

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

$$P_1(x_1, y_1) \quad P_2(x_2, y_2)$$

Hierarchical  
clustering





Hierarchical  
clustering

