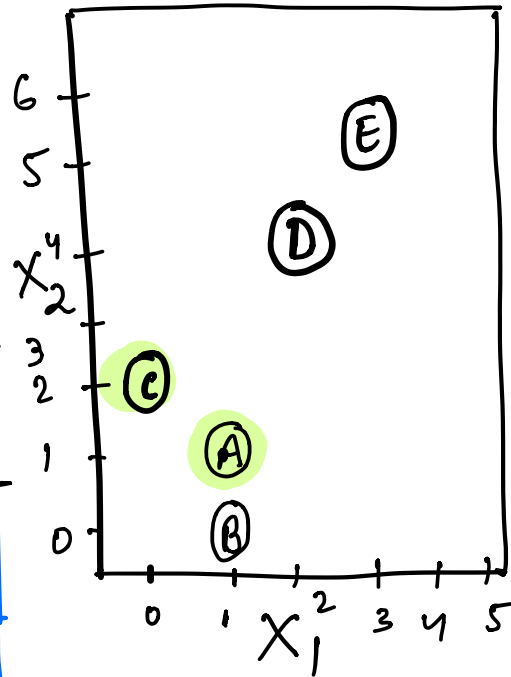


Step-0

i/p Data

i	x_1	x_2
A	1	1
B	1	0
C	0	2
D	2	4
E	3	5



Step-1

Select K , Suppose $K = 2$,

Select K points randomly as centroid/initial means.

Suppose A and C are randomly
Selected as the initial means.

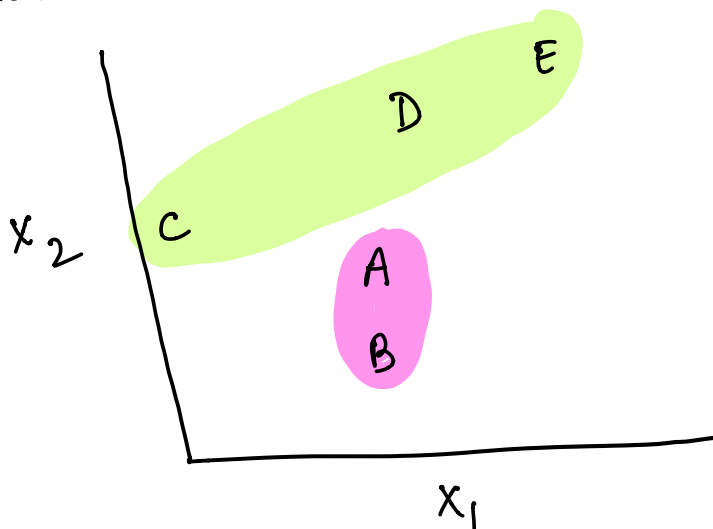
Step-2

Compute distances between each of the cluster means and all other points.

i	x_1	x_2
A	1	1
B	1	0
C	0	2
D	2	4
E	3	5

i	x_1	x_2	
A	0	1.4	c_1
B	1	2.2	c_1
C	1.4	0	c_2
D	3.2	2.8	c_2
E	4.5	4.2	c_2

Assign each case to the cluster having the closest mean. Recalculate the cluster mean.



Step-3

Recalculate cluster means.

$$\bar{x}_1 = (1, 0.5)$$

$$\bar{x}_2 = (1.7, 3.7)$$

