K-means;

P_1	1	1
P_2	6	7
P_3	4	6
P_4	5	7
P_5	5	2
P_6	2	3
P_7	1	2
P_8	3	1

Let Initial centroids are P_1 and P_2

(1,1) (6,7) (4,6) (5,7) (5,2) (2,3) (1,2) (3,1)

	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8
P_1 (1,1)	0	7.81	5.83	7.21	4.12	2.23	1	1.41
P_2 (6,7)	7.81	0	2.23	1.41	5.09	5.65	7.07	6.70

Group1 $\{P_1, P_5, P_6, P_7, P_8\}$

Group2 $\{P_2, P_3, P_4\}$

Ist Iteration;-

G1) New centroid $= \left(\frac{1+5+2+1+3}{5}\right), \left(\frac{1+2+3+2+1}{5}\right)$

$\left(\frac{12}{5}, \frac{9}{5}\right) = (2.4, 1.8)$

G2 $= \left(\frac{6+4+5}{3}\right), \left(\frac{7+6+7}{3}\right) = (5, 6.67)$

(1,1) (6,7) (4,6) (5,7) (5,2) (2,3) (1,2) (3,1)

	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8
(2.4, 1.8)	1.61	6.32	4.49	5.81	2.60	1.26	1.41	1
(5, 6.67)	6.93	1.05	1.20	0.33	4.67	4.74	6.14	6.01

Group1 $\{P_1, P_5, P_6, P_7, P_8\}$ No change

Group2 $\{P_2, P_3, P_4\}$ Answer.