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Tugas 10

Data	x1	x2
H1	2	10
A2	2	5
A3	8	9
A4	5	8
A5	7	5
A6	6	9
A7	1	2
A8	9	9

Centroid H1, A4, A7

Centroid	x1	x2
1	2	10
2	5	8
3	1	2

Penyelesaian

1 Iterasi ke 1

Data	C1	C2	C3	Tolerance	Cluster
H1	0,0000	3,3166	8,0622	0,0000	1
H2	5,0000	4,7426	3,1622	3,1622	3
A3	8,9802	5,0000	7,2801	5,0000	2
A4	3,3166	0,0000	7,2111	0,0000	2
A5	7,0710	3,3166	6,7682	3,3166	2
A6	7,211	4,1231	5,3951	4,1231	2
A7	8,0622	7,2111	0,0000	0,0000	3
A8	2,2366	1,4142	7,6157	1,4142	2

C1 = H1

C2 = A3, A4, A5, A6, A8

C3 = A2, A7

Cluster 1

Data	x1	x2
H1	2	10
1	2	10
Data ²	2	10

Cluster 2

Data	x1	x2
A3	8	9
A4	5	8
A5	7	5
A6	6	9
A8	9	9
5	30	30
Data ²	6	6

Cluster 3

Data	x1	x2
A2	2	5
A7	1	2
2	3	7
Data ²	1,5000	3,5000

Centroid Baru

Centroid	x1	x2
1	2,0000	10,0000
2	6,0000	6,0000
3	1,5000	3,5000



D Iterasi ke 2

Data	C1	C2	C3	Terdekat	Cluster
A1	0,0000	5,6568	6,5192	0,0000	1
A2	6,0000	0,1231	1,5811	1,5811	3
A3	8,1853	2,8284	6,5192	2,8284	2
A4	3,3166	2,2360	5,7008	2,2360	2
A5	7,0710	1,1112	5,7008	1,1112	2
A6	7,2111	2,0000	4,5276	2,0000	2
A7	8,0682	6,4031	1,5811	1,5811	3
A8	2,2360	3,3166	6,0915	2,2360	1

$$C1 = A1, A8$$

$$C2 = A3, A4, A5, A6$$

$$C3 = A2, A7$$

D Cluster 1

Data	x1	x2
A1	2	10
A8	1	9
2	6	19
Data ²	30000	95000

D Cluster 2

Data	x1	x2
A3	8	9
A4	5	8
A5	7	5
A6	6	9
4	26	21
Data ²	61000	52500

Data	x1	x2
A2	2	5
A7	1	2
2	3	7
Data ²	1,0000	3,5000

D Centroid Baru

Centroid	x1	x2
1	3,0000	9,5000
2	6,5000	5,2500
3	1,0000	3,5000

D Iterasi ke 3

Data	C1	C2	C3	Terdekat	Cluster
A1	1,1180	6,5929	6,5192	1,1180	1
A2	9,6087	9,5069	1,5811	1,5811	3
A3	7,9310	1,9525	6,5192	1,9525	2
A4	2,5000	3,1324	5,7008	2,5000	1
A5	6,0207	1,3962	5,7008	1,3962	2
A6	6,2649	1,9525	4,5276	1,9525	2
A7	6,8007	6,1491	1,5811	1,5811	3
A8	1,1180	9,5069	6,0915	1,1180	1

$$C1 = A1, A4, A8$$

$$C2 = A3, A5, A6$$

$$C3 = A2, A7$$

D Cluster 1

Data	x1	x2
A1	2	10
A4	5	8
A8	1	9
3	11	27
Rata-rata	3,6667	9,0000

D Cluster 2

Data	x1	x2
A3	8	4
A5	7	5
A6	6	4
3	21	13
Rata-rata	7,0000	4,3333

D Cluster 3

Data	x1	x2
A2	2	5
A7	1	2
2	3	7
Rata-rata	1,5000	3,5000

D Centroid Baru

Centroid	x1	x2
1	3,6667	9,0000
2	7,0000	4,3333
3	1,5000	3,5000

D Iterasi ke 4

Data	C1	C2	C3	Terdapat	Cluster
A1	1,9436	7,5572	6,5492	1,9436	1
A2	4,3333	5,0662	1,5811	1,5811	3
A3	6,8333	1,0540	1,9525	1,0540	2
A4	1,6666	4,1776	2,5000	1,6666	1
A5	5,2668	0,6666	1,3462	0,6666	2
A6	5,5176	1,0540	1,9525	1,0540	2
A7	7,4907	6,4377	1,5811	1,5811	3
A8	0,3333	5,5977	1,1180	0,3333	1

$$C1 = A1, A4, A8$$

$$C2 = A3, A5, A6$$

$$C3 = A2, A7$$

D Cluster 1

Data	x1	x2
A1	2	10
A4	5	8
A8	1	9
3	11	27
Rata-rata	3,6667	9,0000

Cluster 2

Data	x1	x2
A3	8	4
A5	7	5
A6	6	4
3	21	13
Rata-rata	7,0000	4,3333

Cluster 3

Data	x1	x2
A2	2	5
A7	1	2
2	3	7
Rata-rata	1,5000	3,5000

D Centroid Baru

Centroid	x1	x2
1	3,6667	9,0000
2	7,0000	4,3333
3	1,5000	3,5000

Iterasi berakhir karena Centroid sama dengan Centroid sebelumnya. Hasil akhir klasifikasi adalah :

$$C1 = A1, A4, A8$$

$$C2 = A3, A5, A6$$

$$C3 = A2, A7$$