No.

Date . .

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MatKul : Penambangan Data

No.	Y1	Y2
1.	2	2
2.	3	2
3.	1	1
4.	3	1
5.	1.5	0,5

⇒ Initial Centroid

Cluster	Y1	Y2
K1	2	2
K2	3	2

→

Cluster	Centroid		
	Y1	Y2	Assignment
K1	0	1	1
K2	1	0	0

- K = 2
- Calculate distance (Ex. Eucidean)

$d(K1, K1) = \sqrt{(2-2)^2 + (2-2)^2} = 0$

$d(K1, K2) = \sqrt{(2-3)^2 + (2-2)^2} = 1$

- K = 2
- Calculate distance (Ex. Eucidean)

$d(K1, n3) = \sqrt{(2-1)^2 + (2-1)^2} = 1,414$

$d(K2, n3) = \sqrt{(3-1)^2 + (2-1)^2} = 2,236$

Dataset	Euclidean		
	Cluster 1	Cluster 2	Assignment
3	1,414	2,236	1

Update cluster 2 (K2)

Cluster	Y1	Y2
K1	2	2
K2	2	1,5

$K2(Y1) = \frac{3+1}{2} = 2$

$K_2(Y2) = \frac{1+2}{2} = 1,5$

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- $K = 2$
- Calculate distance (Ex. Eucidean)

$d(K1, n4) = \sqrt{(2-3)^2 + (2-1)^2} = 1,414$

$d(K2, n4) = \sqrt{(2-3)^2 + (1,5-1)^2} = 1,118$

Dataset	Euclidean		
	Cluster 1	Cluster 2	Assignment
3	1,414	2,236	2
4	1,414	1,118	2

Update Cluster 2 (K2)

Cluster	Y1	Y2
K1	2,5	1,5
K2	2	1,5

$K_1(Y1) = \frac{2+3}{2} = 2,5$

$K_1(Y2) = \frac{2+1}{2} = 1,5$

- $K = 2$
- Calculate distance (Ex. Eucidean)

$d(K1, n5) = \sqrt{(2,5-1,5)^2 + (1,5-0,5)^2} = 1,414$

$d(K2, n5) = \sqrt{(2-1,5)^2 + (1,5-0,5)^2} = 1,118$

Dataset			
	Cluster 1	Cluster 2	Assignment
3	1,414	2,236	2
4	1,414	1,118	2
5	1,414	1,118	2

Update Cluster 2 (K2)

Cluster	Y1	Y2
K1	2	1
K2	2	1,5

$K1(Y1) = \frac{2,5+1,5}{2} = 2$

$K1(Y2) = \frac{1,5+0,5}{2} = 1$

Final

No	Y1	Y2	Assignment
1	2	2	1
2	3	2	0
3	1	1	2
4	3	1	2
5	1,5	0,5	2