tentukan anggota klasternya jika dikelompokkan menjadi 2

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$M_1 = (1 ; 4,5)$
$M_2 = (3 ; 6,5)$
$M_3 = (4 ; 4,5)$
$M_4 = (7,5 ; 3,2)$
$M_5 = (6, 2,3)$
$M_6 = (2,5 ; 3,8)$
$M_7 = (5 ; 5,5)$

$k = 2$

Centroid $= C_1(3,4)$, $C_2(6,4)$

$D_{(1,1)} = \sqrt{(m_{1x} - c_{1x})^2 + (m_{1y} - c_{1y})^2}$
$= \sqrt{(1-3)^2 + (4,5-4)^2} = 2,06$

$D_{(1,2)} = \sqrt{(3-3)^2 + (6,5-4)^2} = 2,5$

$D_{(1,3)} = \sqrt{(4-3)^2 + (4,5-4)^2} = 1,11$

$D_{(1,4)} = \sqrt{(7,5-3)^2 + (3,2-4)^2} = 4,5$

$D_{(1,5)} = \sqrt{(6-3)^2 + (2,3-4)^2} = 3,44$

$D_{(1,6)} = \sqrt{(2,5-3)^2 + (3,8-4)^2} = 0,53$

$D_{(1,7)} = \sqrt{(5-3)^2 + (5,5-4)^2} = 2,5$

$D_{(2,1)} = \sqrt{(m_{1x} - c_{2x}) + (m_{1y} - c_{2y})^2}$
$= \sqrt{(1-6)^2 + (4,5-4)} = 5,02$

$D_{(2,4)} = \sqrt{(3-6)^2 + (6,5-4)^2} = 3,9$

$D_{(2,3)} = \sqrt{(4-6)^2 + (4,5-4)^2} = 2,06$

$D_{(2,4)} = \sqrt{(7,5-6)^2 + (3,2-4)^2} = 1,7$

$D_{(2,5)} = \sqrt{(6-6)^2 + (2,3-4)^2} = 1,7$

$D_{(2,6)} = \sqrt{(2,5-6)^2 + (3,5-4)^2} = 3,53$

$D_{(2,7)} = \sqrt{(5-6)^2 + (5,5-4)^2} = 1,8$

	M_1	M_2	M_3	M_4	M_5	M_6	M_7
C_1	(2,06)	(2,5)	(1,11)	4,5	3,44	(0,53)	2,5
C_2	5,02	3,9	2,06	(1,7)	(1,7)	3,53	(1,8)

Koordinat centroid baru

$$C_1 = \left(\frac{1+3+4+2,5}{4}\right)\left(\frac{4,5+6,5+4,5+3,8}{4}\right)$$

$$C_1 = (2,62 \; ; \; 4,82)$$

$$C_2 = \left(\frac{7,5+6+5}{3}\right), \left(\frac{3,2+2,3+5,5}{3}\right)$$

$$= (6,16 \; ; \; 3,66)$$

menghitung jarak terhadap centroid baru

$$D_{(i,j)} = \sqrt{(m_{ix} - c_{new\,ix})^2 + (m_{iy} - c_{new\,iy})^2}$$

$D_{(1,1)} = \sqrt{(1-2,62)^2 + (4,5-4,82)^2} = 1,65$

$D_{(2,1)} = \sqrt{(3-2,62)^2 + (6,5-4,82)^2} = 1,72$

$D_{(3,1)} = \sqrt{(4-2,62)^2 + (4,5-4,82)^2} = 1,41$

$D_{(4,1)} = \sqrt{(7,5-2,62)^2 + (3,2-4,82)^2} = 5,14$

$D_{(5,1)} = \sqrt{(6-2,62)^2 + (2,3-4,82)^2} = 4,21$

$D_{(6,1)} = \sqrt{(2,5-2,62)^2 + (3,8-4,82)^2} = 1,02$

$D_{(7,1)} = \sqrt{(5-2,62)^2 + (5,5-4,82)^2} = 2,47$

$D_{(1,2)} = \sqrt{(1-6,16)^2 + (4,5-3,66)^2} = 5,22$

$D_{(2,2)} = \sqrt{(3-6,16)^2 + (6,5-3,66)^2} = 4,24$

$D_{(3,2)} = \sqrt{(4-6,16)^2 + (4,5-3,66)^2} = 2,31$

$D_{(4,2)} = \sqrt{(7,5-6,16)^2 + (3,2-3,66)^2} = 1,41$

$D_{(5,2)} = \sqrt{(6-6,16)^2 + (2,3-3,66)^2} = 1,36$

$D_{(6,2)} = \sqrt{(2,5-6,16)^2 + (3,8-3,66)^2} = 3,66$

$D_{(7,2)} = \sqrt{(5-6,16)^2 + (5,5-4,82)^2} = 2,17$

hasil iterasi ke 2

	M_1	M_2	M_3	M_4	M_5	M_6	M_7
C_1	1,65	1,72	1,41	5,14	4,21	1,02	2,47
C_2	5,22	4,24	2,31	1,41	1,36	3,66	2,17