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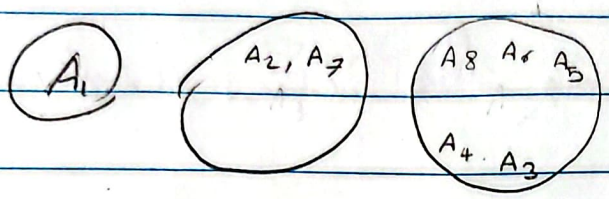
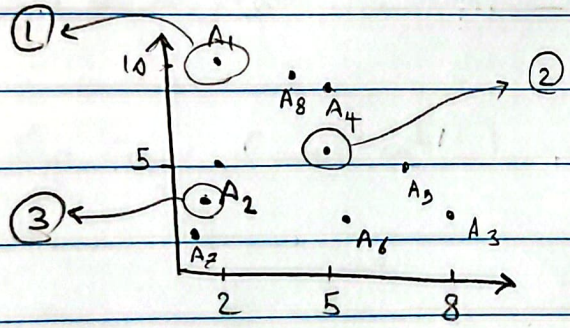
8101002511 Shuchi

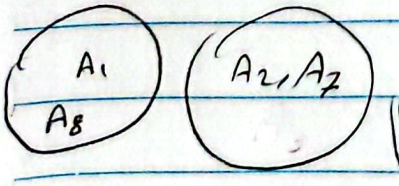
	(2,10)	(5,8)	(1,2)	cluster
A_1 (2,10)	0	5	9	1
A_2 (2,5)	5	6	4	3
A_3 (8,4)	12	7	9	2
A_4 (5,8)	5	0	10	2
A_5 (7,5)	10	5	9	2
A_6 (6,4)	10	5	7	2
A_7 (1,2)	5	10	0	3
A_8 (4,9)	3	2	10	2



min → ① = A_1, ② = $\left(\frac{2+1}{2}, \frac{5+2}{2}\right)$, ② = (1.5, 3.5) = (6, 6)



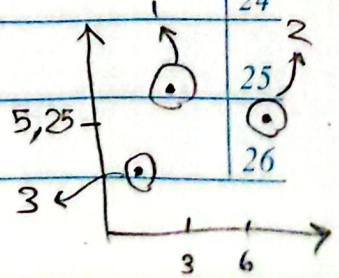
	(2,10)	(6,6)	(1.5, 3.5)	cluster
A_1				1
A_2				3
				2
				2
				2
				2
A_8				3



① = (3, 5.5)

② = (6, 5.25)

③ = (1.5, 3.5)



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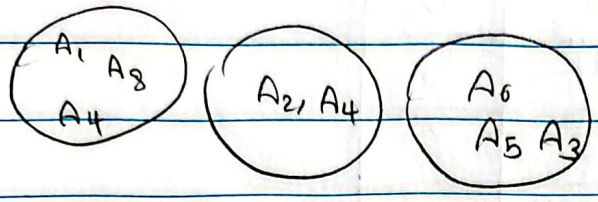
A_4 بعدی تنها iteration ←



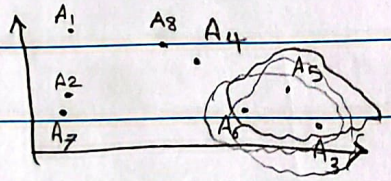
$\rightarrow \min \rightarrow$ ① $= (\frac{11}{3}, 9)$ ② $(\frac{21}{3}, \frac{14}{3})$ ③ $= (1,5, 3,5)$

بعد از این دیگر الگوریتم همگرا می‌شود پس 2 مرحله iteration بازنمود.

	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8
A_1	0	0	0	0	0	0	0	0
A_2	$\sqrt{25}$	0	0	0	0	0	0	0
A_3	$\sqrt{72}$	$\sqrt{37}$	0	0	0	0	0	0
A_4	$\sqrt{13}$	$\sqrt{18}$	$\sqrt{25}$	0	0	0	0	0
A_5	$\sqrt{50}$	$\sqrt{25}$	$\sqrt{2}$	$\sqrt{13}$	0	0	0	0
A_6	$\sqrt{52}$	$\sqrt{17}$	$\sqrt{4}$	$\sqrt{17}$	$\sqrt{2}$	0	0	0
A_7	$\sqrt{65}$	$\sqrt{10}$	$\sqrt{53}$	$\sqrt{52}$	$\sqrt{45}$	$\sqrt{29}$	0	0
A_8	$\sqrt{5}$	$\sqrt{20}$	$\sqrt{41}$	$\sqrt{2}$	$\sqrt{25}$	$\sqrt{29}$	$\sqrt{58}$	0

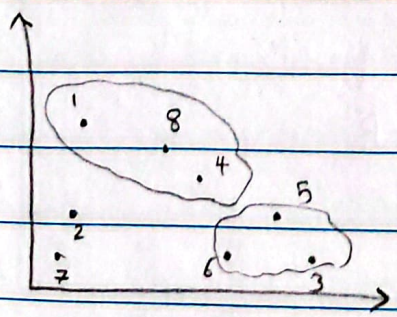
② ×

$\varepsilon = 2 = \sqrt{4}$ → A_1: / A_2: / A_3: A_5, A_6 / A_4: A_8 / A_5: A_3, A_6 / A_6: A_5, A_3 / A_7: / A_8: A_4



cluster ها A_6, A_5, A_3
با یکدیگر همسایه اند، نقاط دیگر همسایه کدام یک از خوشه‌ها نیستند.

$\varepsilon = \sqrt{10}$ → A_1: A_8 / A_2: A_7 / A_3: A_5, A_6 / A_4: A_8 / A_5: A_3, A_6 / A_6: A_3, A_5 / A_7: A_2 / A_8: A_1, A_4



کلاستر ها هستند A_3, A_5, A_6, A_8

نقاط همسایه اند A_4, A_1

و باقی نقاط (A_2, A_7) نویز اند.

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③

	A	B	C	D
A	0	1	4	5
B	1	0	3	6
C	4	3	0	2
D	5	6	2	0

(A,B) →

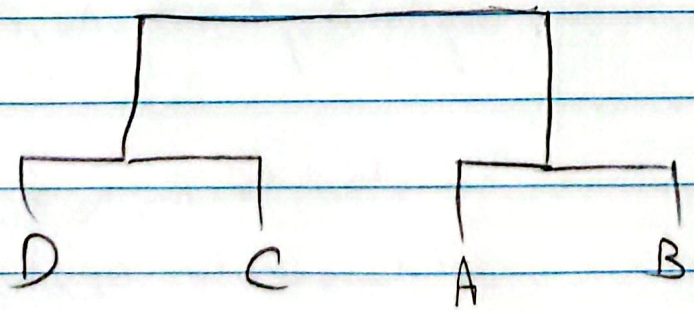
	A, B	C	D
A,B	0	3	5
C	3	0	2
D	5	2	0

(C,D) →

	A, B	C, D
A,B	0	3
C,D	3	0

((A,B),(C,D)) →

	A,B,C,D
A,B,C,D	0



: hierarchy