

Assignment 6 (Group 3)

Iteration-1

												Allocation to the nearest Cluster
C1	50	1	0	0	0	2	45	Distance from C1	Distance from C2	Distance from C3		
C2	40	1	1	1	0	3	40					
C3	50	0	0	0	0	2	42					
S1	50	1	0	0	0	2	45	0	18	4	C1	
S2	40	1	1	1	0	3	40	18	0	16	C2	
S3	50	0	0	0	0	2	42	4	16	0	C3	
S4	40	1	1	1	1	2	43	15	5	15	c2	
S5	60	1	0	1	0	3	38	19	23	17	C3	
S6	30	0	0	0	0	3	55	32	28	34	C2	
S7	40	1	0	1	1	2	35	22	8	20	C2	
S8	30	0	1	0	0	2	27	40	26	36	C2	
S9	40	1	0	0	0	2	43	12	6	12	C2	
S10	40	1	1	1	0	3	41	17	1	15	C2	
S11	50	0	1	1	0	3	43	6	14	4	C3	
S12	30	0	1	1	0	2	29	39	23	35	C2	
S13	60	1	1	1	0	3	39	29	21	17	C3	
S14	50	0	1	0	0	2	55	12	28	14	C1	
S15	30	0	0	1	1	3	19	50	34	46	C2	

Iteration-2(New Centroids)

												Allocation to the nearest Cluster
C1	50	0.5	0.5	0	0	2	50	Distance from C1	Distance from C2	Distance from C3		
C2	35.6	0.56	0.56	0.67	0.33	2.45	36.9					
C3	55	0.5	0.5	0.75	0	2.75	40.5					
S1	50	1	0	0	0	2	45	5	20.93	2	C3	
S2	40	1	1	1	0	3	40	17	8.93	14	C2	
S3	50	0	0	0	0	2	42	9	16.93	6	C3	
S4	40	1	1	1	1	2	43	14	11.93	11	C3	
S5	60	1	0	1	0	3	38	0	25.93	3	C1	
S6	30	0	0	0	0	3	55	15	10.93	12	C2	
S7	40	1	0	1	1	2	35	23	2.93	20	C2	
S8	30	0	1	0	0	2	27	43	22.93	40	C2	
S9	40	1	0	0	0	2	43	17	8.93	14	C2	

S10	40	1	1	1	0	3	41	16	9.93	13	C2
S11	50	0	1	1	0	3	43	5	20.93	2	C3
S12	30	0	1	1	0	2	29	40	14.07	37	C2
S13	60	1	1	1	0	3	39	2	27.93	5	C1
S14	50	0	1	0	0	2	55	5	30.93	8	C1
S15	30	0	0	1	1	3	19	49	23.07	46	C2

Iteration-3(New Centroids)

C1	56.67	0.67	0.67	0.67	0	2.67	44	Distance from C1	Distance from C2	Distance from C3	Allocation to the nearest Cluster
C2	35	0.5	0.5	0.6	0.25	2.5	36				
C3	47.5	0.5	0.5	0.5	0.25	2.25	43.25				
S1	50	1	0	0	0	2	45	7.35	22.65	3.25	C3
S2	40	1	1	1	0	3	40	19.35	10.65	8.75	C3
S3	50	0	0	0	0	2	42	11.35	18.65	0.75	C3
S4	40	1	1	1	1	2	43	16.35	13.65	5.75	C3
S5	60	1	0	1	0	3	38	2.35	27.65	8.25	C1
S6	30	0	0	0	0	3	55	17.35	12.65	6.75	C3
S7	40	1	0	1	1	2	35	25.35	4.65	14.75	C2
S8	30	0	1	0	0	2	27	45.35	15.35	34.75	C2
S9	40	1	0	0	0	2	43	31.35	10.65	8.75	C3
S10	40	1	1	1	0	3	41	32.35	11.65	7.75	C3
S11	50	0	1	1	0	3	43	7.35	22.65	3.25	C3
S12	30	0	1	1	0	2	29	42.35	12.35	31.75	C2
S13	60	1	1	1	0	3	39	0.35	29.65	10.25	C1
S14	50	0	1	0	0	2	55	2.65	32.65	13.25	C1
S15	30	0	0	1	1	3	19	10.6	21.35	40.75	C1

Iteration-4(New Centroids)

C1	50	0.5	0.5	0.75	0.25	2.75	37.75	Distance from C1	Distance from C2	Distance from C3	Allocation to the nearest Cluster
C2	33.33	0.33	0.67	0.67	0.33	2	30.33				
C3	42.5	0.625	0.5	0.5	0.125	2.5	44				
S1	50	1	0	0	0	2	45	5.5	30.34	7.25	C1
S2	40	1	1	1	0	3	40	6.5	18.34	4.75	C3
S3	50	0	0	0	0	2	42	1.5	26.34	3.25	C1
S4	40	1	1	1	1	2	43	3.5	21.34	1.75	C3

S5	60	1	0	1	0	3	38	10.5	35.34	12.25	C1
S6	30	0	0	0	0	3	55	4.5	20.34	2.75	C3
S7	40	1	0	1	1	2	35	12.5	12.34	10.75	C3
S8	30	0	1	0	0	2	27	32.5	7.66	30.75	C2
S9	40	1	0	0	0	2	43	6.5	18.34	4.75	C3
S10	40	1	1	1	0	3	41	5.5	19.34	3.75	C3
S11	50	0	1	1	0	3	43	5.5	30.34	7.25	C1
S12	30	0	1	1	0	2	29	29.5	4.66	27.75	C2
S13	60	1	1	1	0	3	39	12.5	37.34	14.25	C1
S14	50	0	1	0	0	2	55	15.5	40.34	17.25	C1
S15	30	0	0	1	1	3	19	38.5	13.66	36.75	C2

Iteration-5(New Centroids)

								Distance from C1			Allocation to the nearest Cluster
C1	53.33	0.5	0.5	0.5	0	2.5	43.67		Distance from C2	Distance from C3	
C2	30	0	0.67	0.67	0.33	2.33	25				
C3	38.33	0.83	0.5	0.67	0.33	2.5	42.83				
S1	50	1	0	0	0	2	45	3	39	12.01	C1
S2	40	1	1	1	0	3	40	15	27	0.01	C3
S3	50	0	0	0	0	2	42	7	35	8.01	C1
S4	40	1	1	1	1	2	43	12	30	3.01	C3
S5	60	1	0	1	0	3	38	2	44	17.01	C1
S6	30	0	0	0	0	3	55	13	29	2.01	C3
S7	40	1	0	1	1	2	35	21	21	5.99	C3
S8	30	0	1	0	0	2	27	41	1	25.99	C2
S9	40	1	0	0	0	2	43	15	27	0.01	C1
S10	40	1	1	1	0	3	41	14	28	1.01	C3
S11	50	0	1	1	0	3	43	3	39	12.01	C1
S12	30	0	1	1	0	2	29	38	4	22.99	C2
S13	60	1	1	1	0	3	39	4	46	19.01	C1
S14	50	0	1	0	0	2	55	7	49	22.01	C1
S15	30	0	0	1	1	3	19	47	5	31.99	C2

Iteration-6(New Centroids)

								Distance from C1			Allocation to the nearest Cluster
C1	51.43	0.57	0.43	0.43	0	2.43	43.57		Distance from C2		
C2	30	0	0.67	0.67	0.33	2.33	25				

C3	38	0.8	0.6	0.8	0.4	2.6	42.8			Distance from C3	
S1	50	1	0	0	0	2	45	0.86	39	12	C1
S2	40	1	1	1	0	3	40	12.86	27	0	C3
S3	50	0	0	0	0	2	42	4.86	35	8	C1
S4	40	1	1	1	1	2	43	9.86	30	3	C3
S5	60	1	0	1	0	3	38	4.14	44	17	C1
S6	30	0	0	0	0	3	55	10.86	29	2	C3
S7	40	1	0	1	1	2	35	18.86	21	6	C3
S8	30	0	1	0	0	2	27	38.86	1	26	C2
S9	40	1	0	0	0	2	43	12.86	27	0	C3
S10	40	1	1	1	0	3	41	11.86	28	1	C3
S11	50	0	1	1	0	3	43	0.86	39	12	C1
S12	30	0	1	1	0	2	29	35.86	4	23	C2
S13	60	1	1	1	0	3	39	6.14	46	19	C1
S14	50	0	1	0	0	2	55	9.14	49	22	C1
S15	30	0	0	1	1	3	19	44.86	5	32	C2

Iteration-7(New Centroids)

C1	53.33	0.5	0.5	0.5	0	2.5	43.67	Distance from C1	Distance from C2	Distance from C3	Allocation to the nearest Cluster
C2	30	0	0.67	0.67	0.33	2.33	25				
C3	38.33	0.83	0.5	0.67	0.33	2.5	42.83				
S1	50	1	0	0	0	2	45	3	39	12	C1
S2	40	1	1	1	0	3	40	15	27	0	C3
S3	50	0	0	0	0	2	42	7	35	8	C1
S4	40	1	1	1	1	2	43	12	30	3	C3
S5	60	1	0	1	0	3	38	2	44	17	C1
S6	30	0	0	0	0	3	55	13	29	2	C3
S7	40	1	0	1	1	2	35	21	21	6	C3
S8	30	0	1	0	0	2	27	41	1	26	C2
S9	40	1	0	0	0	2	43	15	27	0	C3
S10	40	1	1	1	0	3	41	14	28	1	C3
S11	50	0	1	1	0	3	43	3	39	12	C1
S12	30	0	1	1	0	2	29	38	4	23	C2
S13	60	1	1	1	0	3	39	4	46	19	C1
S14	50	0	1	0	0	2	55	7	49	22	C1
S15	30	0	0	1	1	3	19	47	5	32	C2

Results:: Cluster 1 S1,S3,S5,S11,S13,S14

Cluster 2	S8,S12,S15
Cluster 3	S2,S4,S6,S7,S9,S10