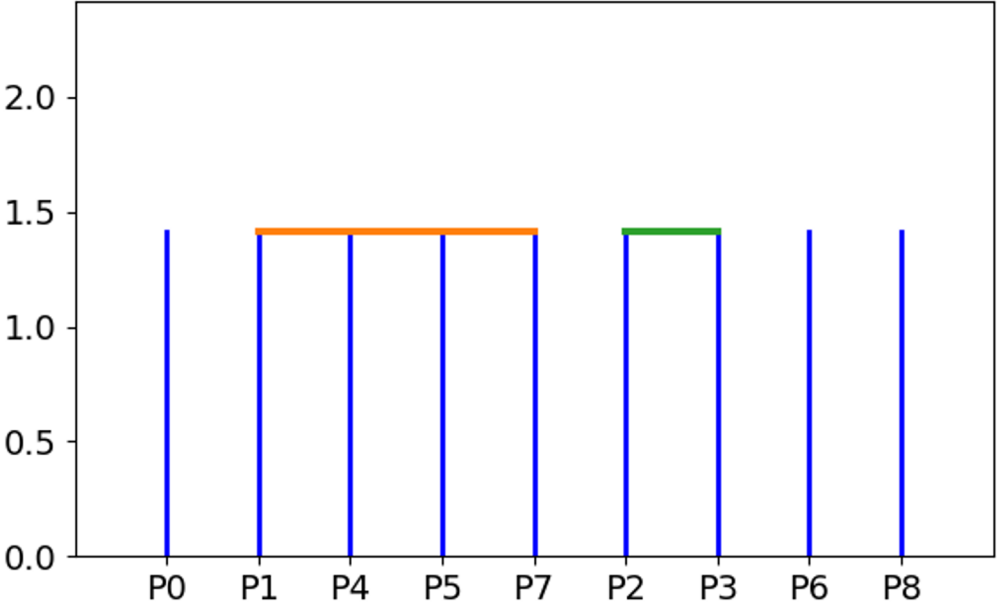


Hierarchical: Single-LINK- Euclidean Distance

0	5.66	3.16	4	8.49	8.6	3.16	7.07	3.16
5.66	0	3.16	4	2.83	3.16	5.1	1.41	3.16
3.16	3.16	0	1.41	5.83	6.32	4.47	4.47	2.83
4	4	1.41	0	6.32	7.07	5.83	5.1	4.24
8.49	2.83	5.83	6.32	0	1.41	7.62	1.41	5.83
8.6	3.16	6.32	7.07	1.41	0	7.21	2	5.66
3.16	5.1	4.47	5.83	7.62	7.21	0	6.32	2
7.07	1.41	4.47	5.1	1.41	2	6.32	0	4.47
3.16	3.16	2.83	4.24	5.83	5.66	2	4.47	0

Min Distance

Single-Linkage - Iteration 1

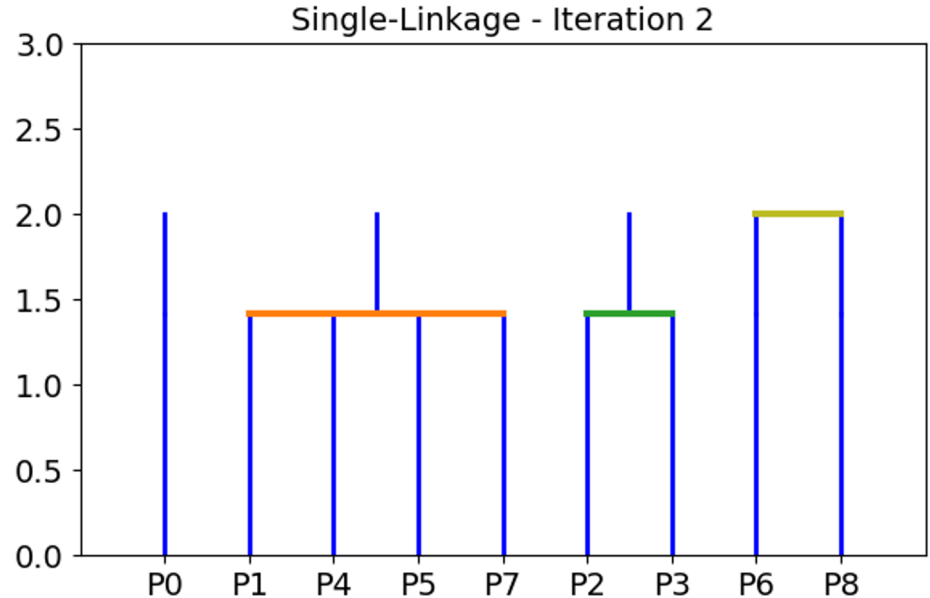


distance merge 1.41

Hierarchical: **Single-LINK**- Euclidean Distance

[(0,)]	(1,4,5,7)	(2, 3),	(6,),	(8,)]
[0.	5.66	3.16	3.16	3.16]
[5.66	0.	3.16	5.1	3.16]
[3.16	3.16	0.	4.47	2.83]
[3.16	5.1	4.47	0.	2.]
[3.16	3.16	2.83	2.	0.]

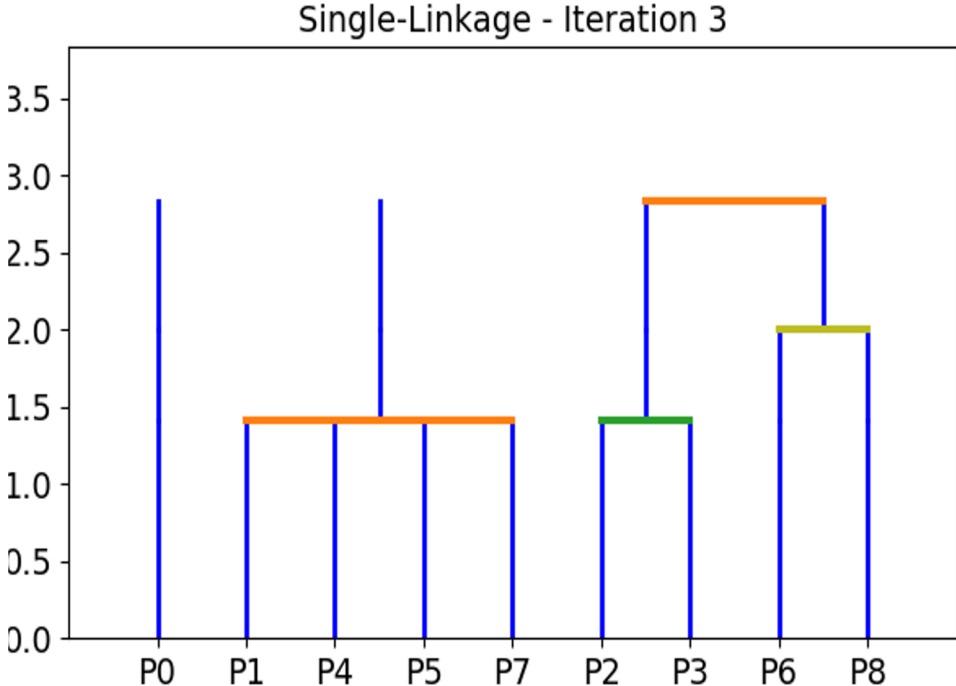
distance merge 2.00



Hierarchical: Single-LINK- Euclidean Distance

[(0,),	(1,4,5,7)	(2, 3),	(6, 8)]
[0.	5.66	3.16	3.16]
[5.66	0.	3.16	3.16]
[3.16	3.16	0.	2.83]
[3.16	3.16	2.83	0.]

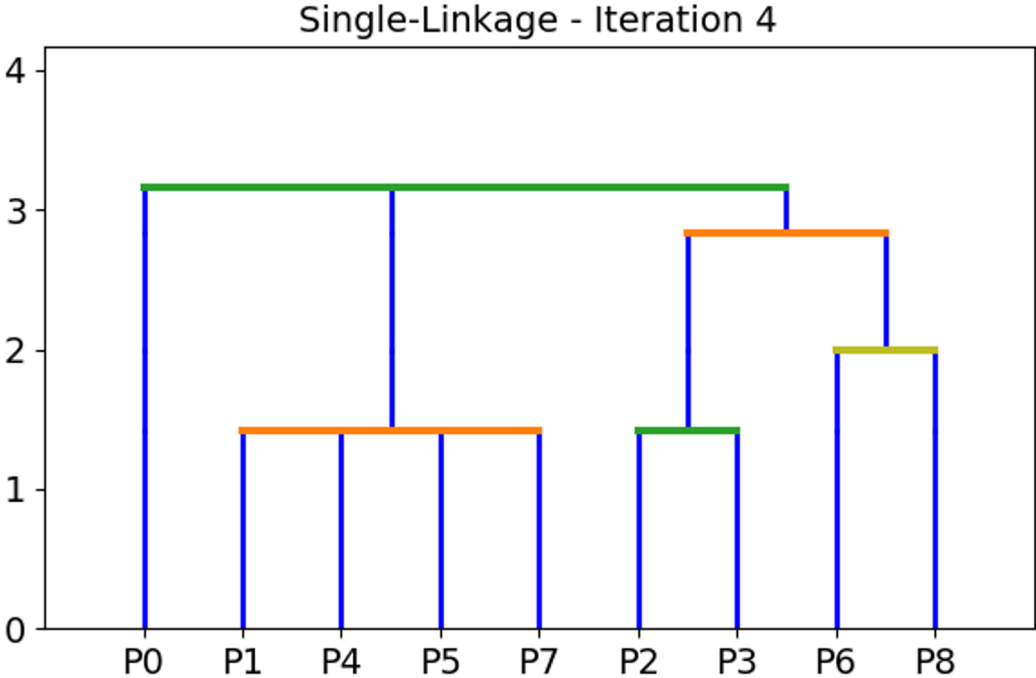
distance merge 2.83



Hierarchical: Single-LINK- Euclidean Distance

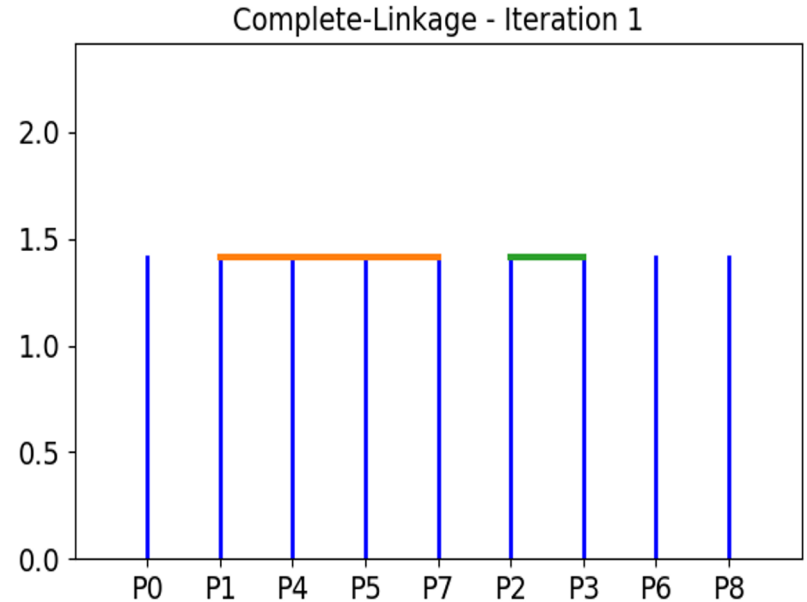
[(0,)	(1,4,5,7)	(2,3,6,8)]
[0.	5.66	3.16]
[5.66	0.	3.16]
[3.16	3.16	0.]

distance merge 3.16



Hierarchical: **Complete-LINK**- Euclidean Distance

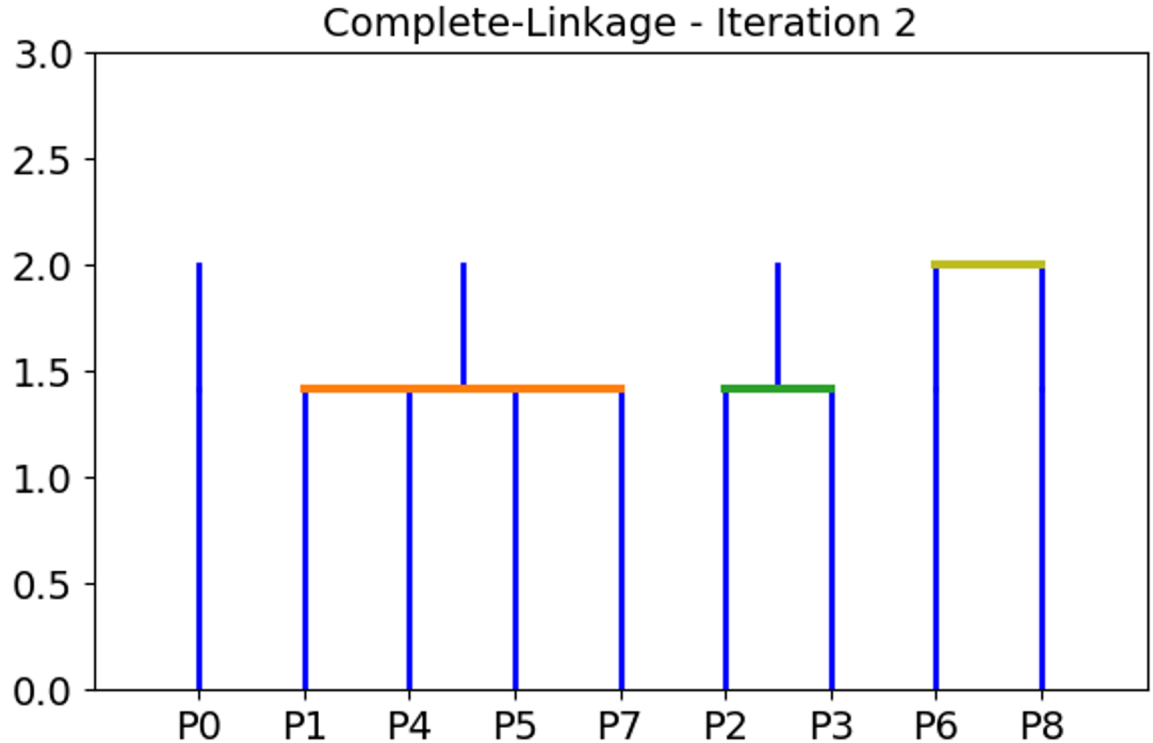
0	5.66	3.16	4	8.49	8.6	3.16	7.07	3.16
5.66	0	3.16	4	2.83	3.16	5.1	1.41	3.16
3.16	3.16	0	1.41	5.83	6.32	4.47	4.47	2.83
4	4	1.41	0	6.32	7.07	5.83	5.1	4.24
8.49	2.83	5.83	6.32	0	1.41	7.62	1.41	5.83
8.6	3.16	6.32	7.07	1.41	0	7.21	2	5.66
3.16	5.1	4.47	5.83	7.62	7.21	0	6.32	2
7.07	1.41	4.47	5.1	1.41	2	6.32	0	4.47
3.16	3.16	2.83	4.24	5.83	5.66	2	4.47	0



Hierarchical: Complete-LINK- Euclidean Distance

[(0)	(1,4,5,7)	(2, 3)	(6)	(8)]
[0.	8.6	4.	3.16	3.16]
[8.6	0.	7.07	7.62	5.83]
[4.	7.07	0.	5.83	4.24]
[3.16	7.62	5.83	0.	2.]
[3.16	5.83	4.24	2.	0.]

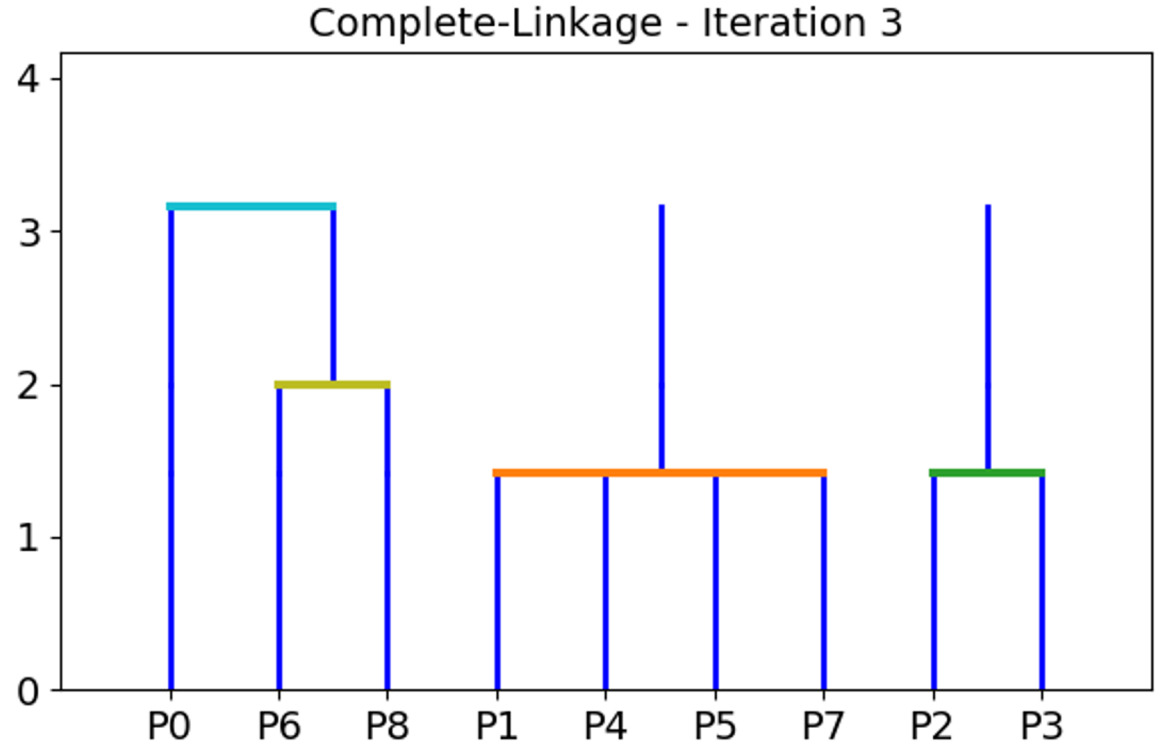
distance merge 2.00



Hierarchical: Complete-LINK- Euclidean Distance

[(0)	(1,4,5,7)	(2, 3)	(6,8)
[0.	8.6	4.	3.16]
[8.6	0.	7.07	7.62]
[4.	7.07	0.	5.83]
[3.16	7.62	5.83	0.]

distance merge 3.16

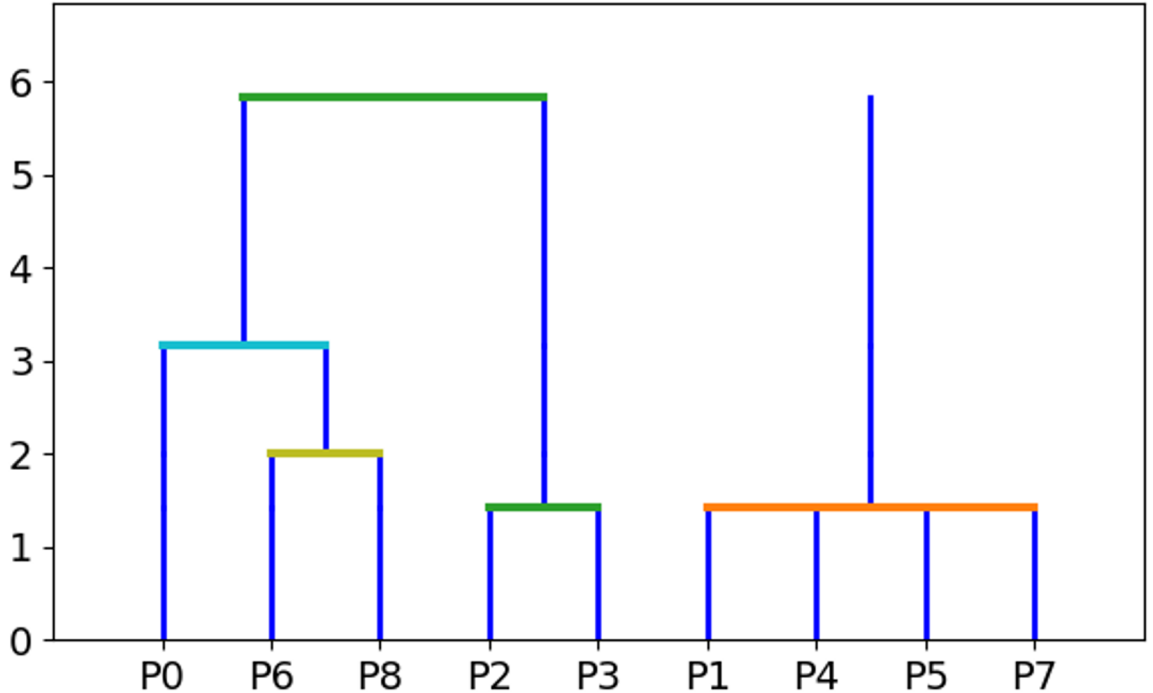


Hierarchical: Complete-LINK- Euclidean Distance

[(0,6,8)	(1,4,5,7)	(2, 3)]
[0.	8.6	5.83]
[8.6	0.	7.07]
[5.83	7.07	0.]

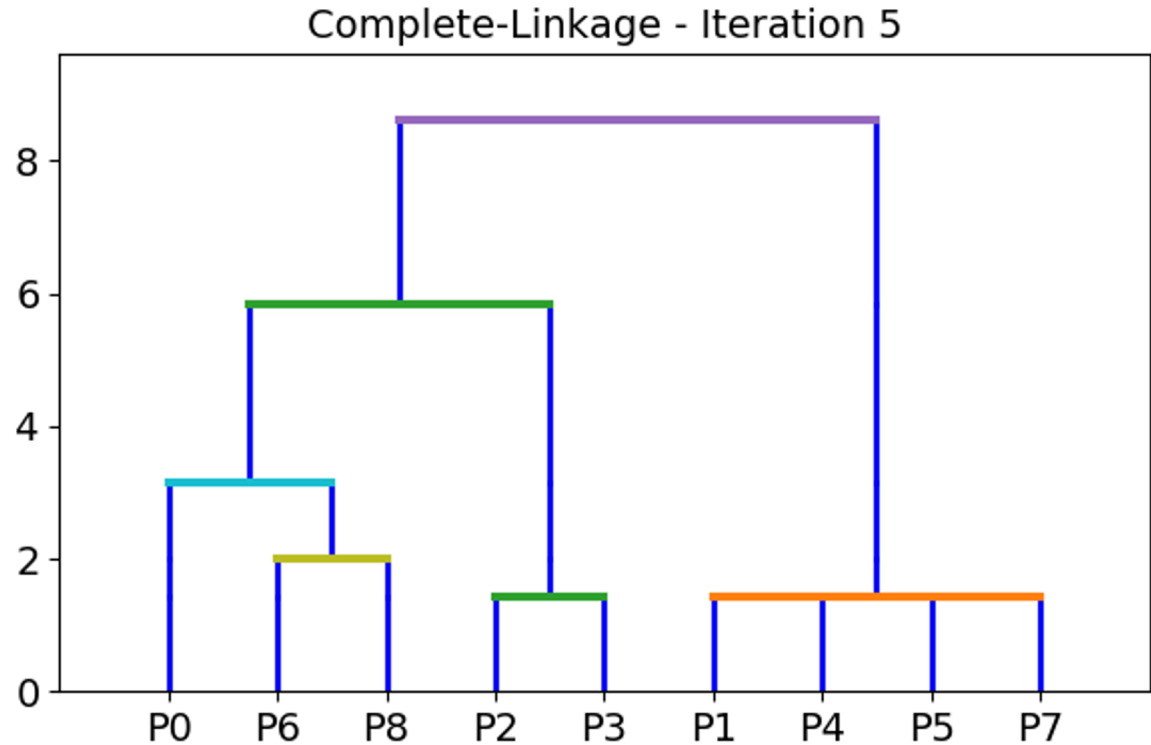
distance merge 5.83

Complete-Linkage - Iteration 4



Hierarchical: Complete-LINK- Euclidean Distance

[(0,2,3,6,8)	(1,4,5,7)
[0.	8.6]
[8.6	0.]

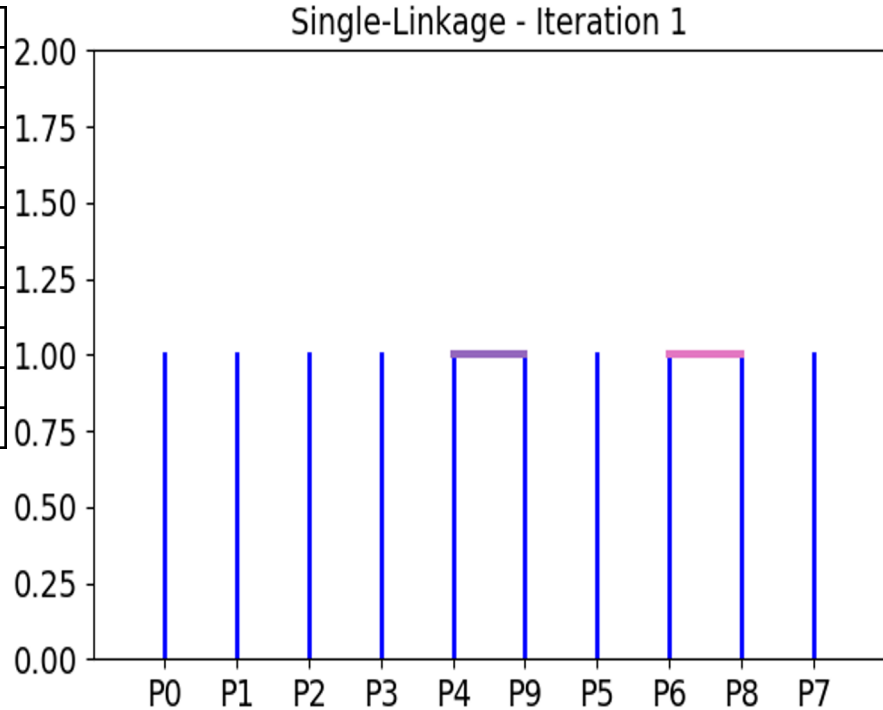


Exercise 2

Hierarchical: Single-LINK- Euclidean Distance

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
0.	2.24	4.24	4.12	6.08	2.24	4.24	5.83	3.61	6.32
2.24	0.	2.24	2.83	7.07	4.47	5.39	6.08	4.47	7.
4.24	2.24	0.	4.12	9.22	6.4	6.	8.	5.	9.06
4.12	2.83	4.12	0.	5.83	6.	8.06	4.12	7.21	5.39
6.08	7.07	9.22	5.83	0.	5.83	9.85	2.24	9.49	1.
2.24	4.47	6.4	6.	5.83	0.	4.12	6.4	4.	6.4
4.24	5.39	6.	8.06	9.85	4.12	0.	10.	1.	10.3
5.83	6.08	8.	4.12	2.24	6.4	10.	0.	9.43	1.41
3.61	4.47	5.	7.21	9.49	4.	1.	9.43	0.	9.85
6.32	7.	9.06	5.39	1.	6.4	10.3	1.41	9.85	0.

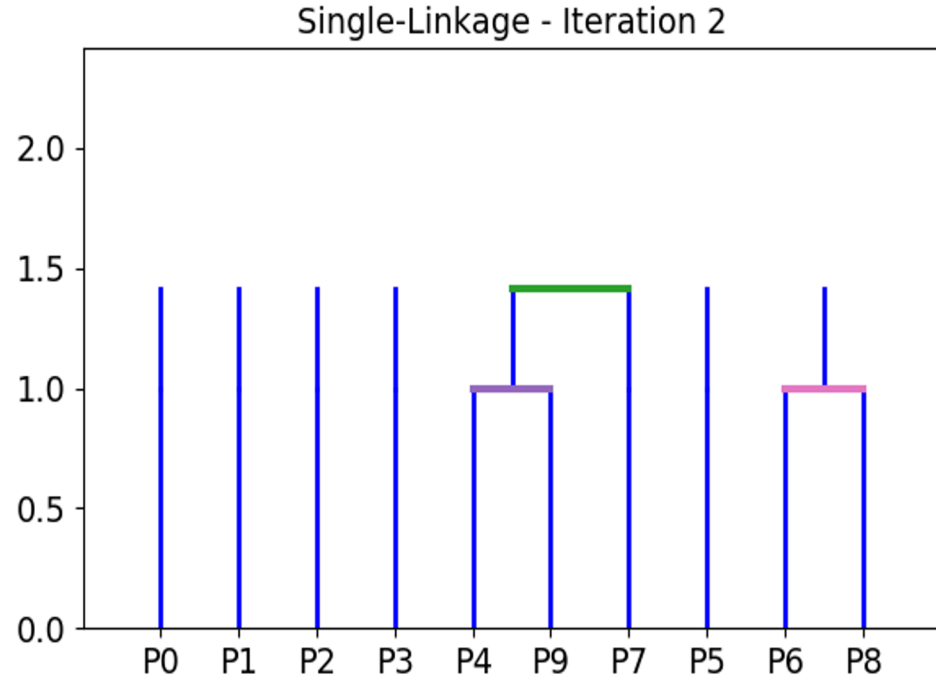
distance merge 1.00



Hierarchical: Single-LINK- Euclidean Distance

(0)	(1)	(2)	(3)	(4,9)	(5)	(6,8)	(7)
[0.	2.24	4.24	4.12	6.08	2.24	3.61	5.83]
[2.24	0.	2.24	2.83	7.	4.47	4.47	6.08]
[4.24	2.24	0.	4.12	9.06	6.4	5.	8.]
[4.12	2.83	4.12	0.	5.39	6.	7.21	4.12]
[6.08	7.	9.06	5.39	0.	5.83	9.49	1.41]
[2.24	4.47	6.4	6.	5.83	0.	4.	6.4]
[3.61	4.47	5.	7.21	9.49	4.	0.	9.43]
[5.83	6.08	8.	4.12	1.41	6.4	9.43	0.]

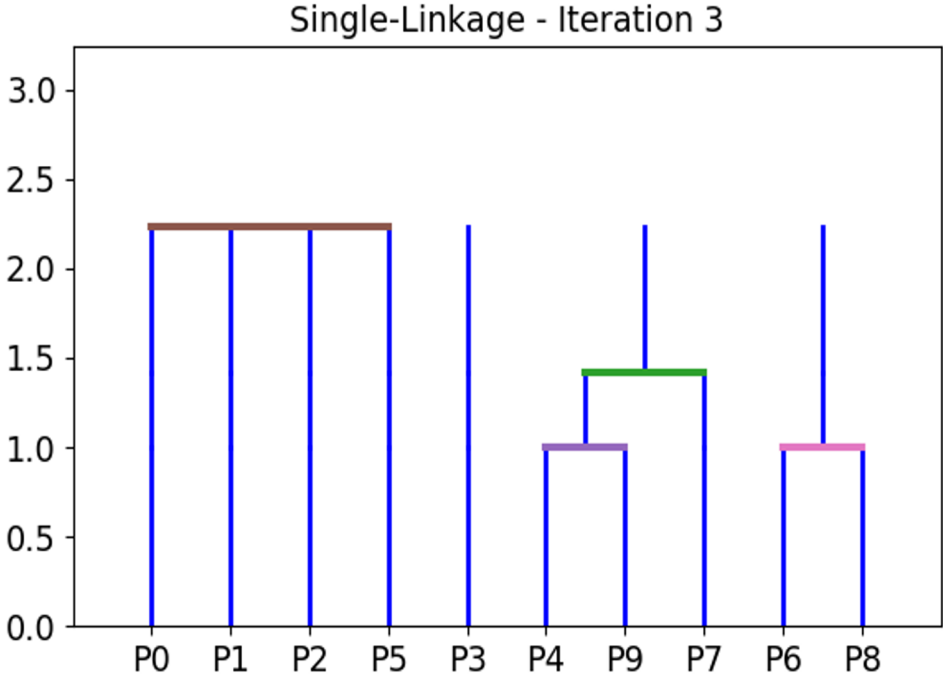
distance merge 1.41



Hierarchical: Single-LINK- Euclidean Distance

(0)	(1)	(2)	(3)	(4,7,9)	(5)	(6,8)
[0.	2.24	4.24	4.12	5.83	2.24	3.61]
[2.24	0.	2.24	2.83	6.08	4.47	4.47]
[4.24	2.24	0.	4.12	8.	6.4	5.]
[4.12	2.83	4.12	0.	4.12	6.	7.21]
[5.83	6.08	8.	4.12	0.	5.83	9.43]
[2.24	4.47	6.4	6.	5.83	0.	4.]
[3.61	4.47	5.	7.21	9.43	4.	0.]

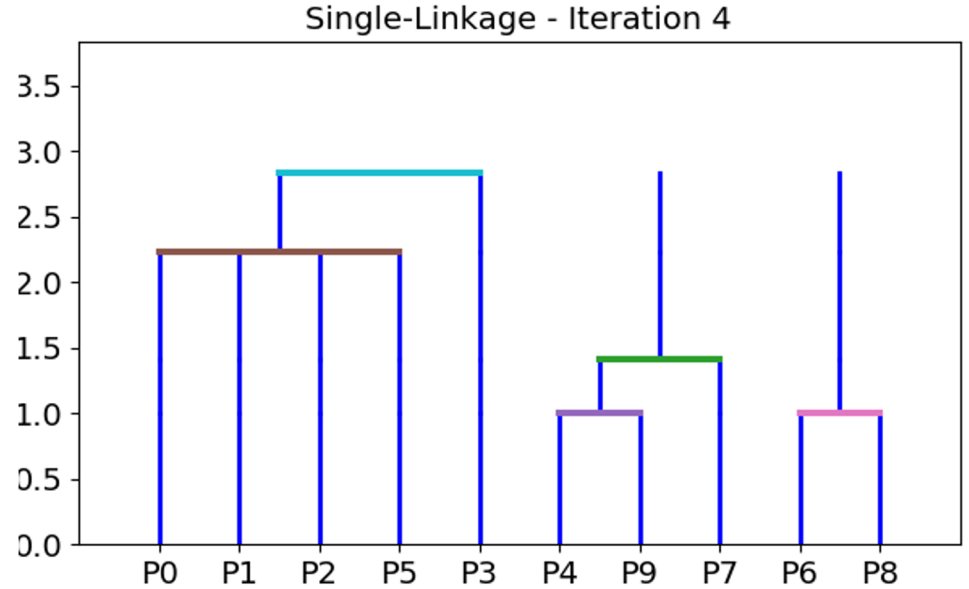
distance merge 2.24



Hierarchical: Single-LINK- Euclidean Distance

(0,1,2,5)	(3)	(4,7,9)	(6,8)
[[0.	2.83	5.83	3.61]
[2.83	0.	4.12	7.21]
[5.83	4.12	0.	9.43]
[3.61	7.21	9.43	0.]

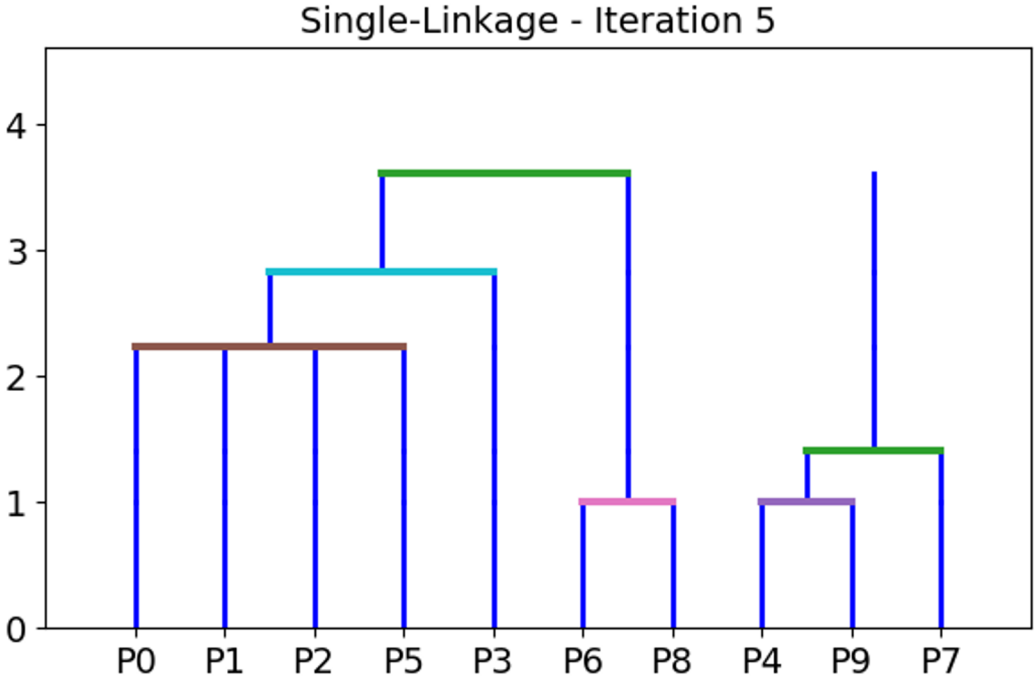
distance merge 2.83



Hierarchical: Single-LINK- Euclidean Distance

(0,1,2,3,5)	(4,7,9)	(6,8)
[0.	4.12	3.61]
[4.12	0.	9.43]
[3.61	9.43	0.]

distance merge 3.61



Hierarchical: Single-LINK- Euclidean Distance

(0,1,2,3,5,6,8	(4,7,9)
[0.	4.12]
[4.12	0.]

