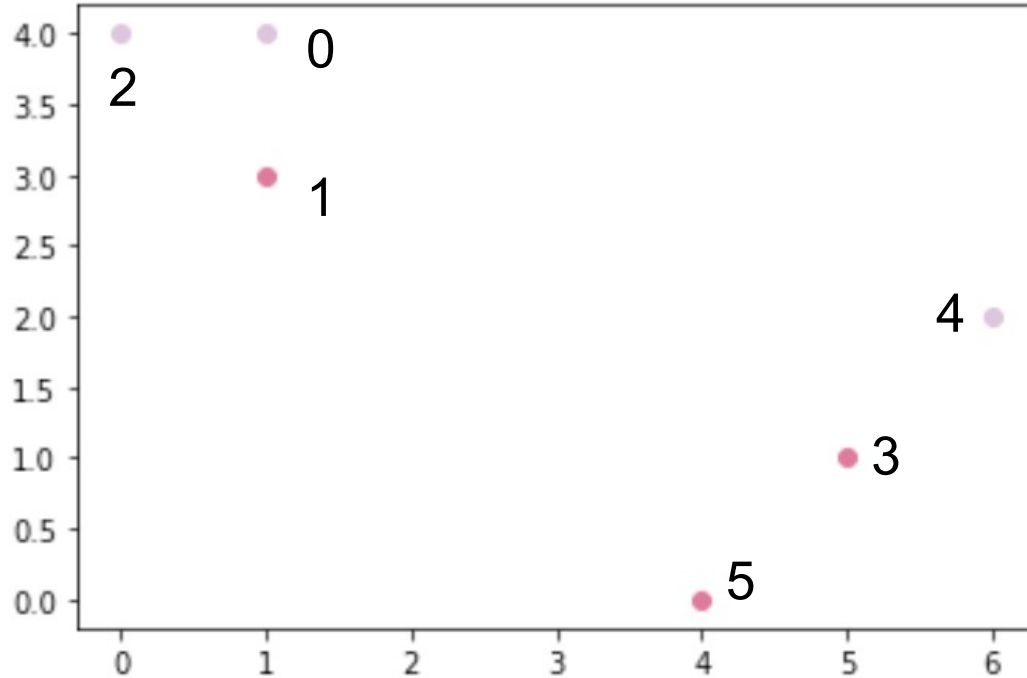


K-means clustering



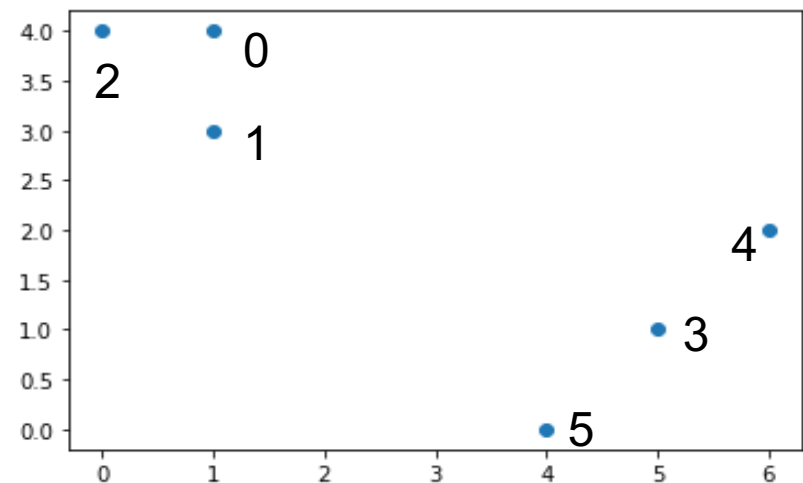
Obs	x_1	x_2
0	1	4
1	1	3
2	0	4
3	5	1
4	6	2
5	4	0

Cluster 1

Cluster 2

The points have been randomly assigned to each cluster: use steps 2 and 3 described in the lecture to find the clusters given by K-means.

Hierarchical clustering



Obs	x_1	x_2
0	1	4
1	1	3
2	0	4
3	5	1
4	6	2
5	4	0

Dist.	0	1	2	3	4	5
0	0	1	1	5	5.39	5
1		0	1.41	4.47	5.09	4.24
2			0	5.83	6.32	5.65
3				0	1.41	1.41
4					0	2.82
5						0

Dist.	{0,1}	2	3	4	5
{0,1}	0	1.21	4.74	5.24	4.62
2		0	5.83	6.32	5.65
3			0	1.41	1.41
4				0	2.82
5					0

Dist.	

Dist.	

Dist.	