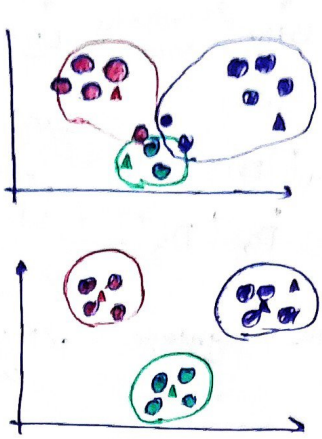
1026 am
FRI Jun 20

K-Means Clustering

Steps

1. Decide. n clusters
2. Init centroids
3. Assign cluster
4. move centroids
5. Finish

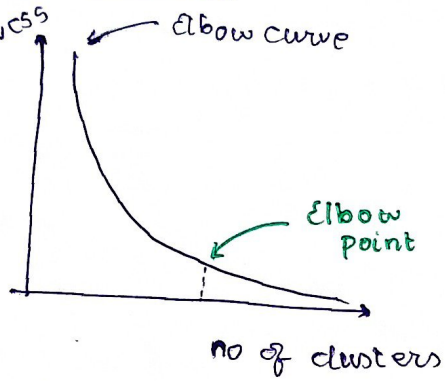


How many cluster from ?

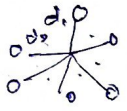
Elbow Method

WCSS (inertia)

(within cluster sum square distance)



wcss



d_1^2

$wcss = \sum d_n^2$

$a = (x_1, y_1)$ & $b = (x_2, y_2)$

$$dist = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2 + (z_2-z_1)^2} \cdots$$

$$(x_2-x_1)(x_2-x_1) + (y_2-y_1)(y_2-y_1)$$

dot ↳ vector form

$$c = [(x_2-x_1)(y_2-y_1)][(x_2-x_1)(y_2-y_1)]$$

both same

~~a-b~~

$c = b - a$

$(x_2-x_1), (y_2-y_1)$

general form `np.sqrt(np.dot(a-b, a-b))`