K-mean clustering: calculation example

id	x_1	x_2
d1	2	1
d2	-3	8
d3	0	10
d4	3	2
d5	-2	8
d6	3	0
d7	4	0
d8	-2	6
d9	-3	9
d10	6	1

Step1: Choose the number of clusters K.

K = ...

Step2: Select K random datapoints from the data as centroids.

centroid1 = ...

centroid2 = ...

Step3 (ครั้งที่1): Assign all the datapoints to the closet cluster centroid.

distance(d1, centroid1) = ...

distance(d1, centroid2) = ...

distance(d2, centroid1) = ...

distance(d2, centroid2) = ...

distance(d3, centroid1) = ...

distance(d3, centroid2) = ...

distance(d4, centroid1) = ...

distance(d4, centroid2) = ...

distance(d5, centroid1) = ...

distance(d5, centroid2) = ...

distance(d6, centroid1) = ...

distance(d6, centroid2) = ...

distance(d7, centroid1) = ...

distance(d7, centroid2) = ...

distance(d8, centroid1) = ...

distance(d8, centroid2) = ...

distance(d9, centroid1) = ...

distance(d9, centroid2) = ...

distance(d10, centroid1) = ...

distance(d10, centroid2) = ...

Step4 (ครั้งที่1): Recompute the centroids of newly form cluster.

Centroid1 = ...

= .....

Centroid2 = ...

= .....

Step5: Repeat step 3 and 4 until meet stopping criteria

Step3 (ครั้งที่2): Assign all the datapoints to the closet cluster centroid.

distance(d1, centroid1) = ...

distance(d1, centroid2) = ...

distance(d2, centroid1) = ...

distance(d2, centroid2) = ...

distance(d3, centroid1) = ...

distance(d3, centroid2) = ...

distance(d4, centroid1) = ...

distance(d4, centroid2) = ...

distance(d5, centroid1) = ...

distance(d5, centroid2) = ...

distance(d6, centroid1) = ...

distance(d6, centroid2) = ...

distance(d7, centroid1) = ...

distance(d7, centroid2) = ...

distance(d8, centroid1) = ...

distance(d8, centroid2) = ...

distance(d9, centroid1) = ...

distance(d9, centroid2) = ...

distance(d10, centroid1) = ...

distance(d10, centroid2) = ...

Step5: Repeat step 3 and 4 until meet stopping criteria

Step4 (ครั้งที่2): Recompute the centroids of newly form cluster.

Centroid1 = ...

= .....

Centroid2 = ...

= .....

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