**Start**

Initialize = 2, =

K && K ?

Get a valid set of indicators .

N

Y

Find the corresponding K of Max(Sil) in Sil set, denoted as .

Y

N

**End**

Outputand corresponding to the cluster center , the membership matrx .

Calculate Silhouette indicator Sil(k)

Whether the clustering is completed?

Randomly select K clusters centers , using K-means clustering algorithm to abtain the relationship matrix and a new cluster center .

K = K + 1