Seminar topic : K-Means Algorithm	Name : G. Nithish Regno : 19BCS0012 Course : Data mining Date : 6/12/2021

K-Means Algorithm:

* K-Means clustering is an unsuperived learning algorithm, which groups the unlabeled dataset into different cluster. Here k defines the number of Pre-define clusters that need to be created in the process, as if k=2 there will be two clusters & for k=3, there will be there clusters. & So on.

* It is an iterative algorithm that divides the unlabeled dataset into k different Cluster in such way that each dataset belongs only one group that has Similar properties.

* It allows us to cluster the data into diferent groups and a Convenient way to dicover the categories of group in the unlabled dataset on its own without the need for any training.

* It is a Centroid based algorithm, where each cluster is associated with a Centroid. The main aim of this Algorithm is to minimize the sum of distances between the data point & their corresponding clusters.

* The algorithm takes the unlabeled dataset as input, divides the dataset into k-number of clusters. & repeats the process, untill it doesn't find the best clusters. The value of k should be predetermined in this algorithm.

* The k-means Clustering:-
Algorithm mainly perform two tasks:

A Determines the best value for k center point or Centroids by an iterative process.

A Assigns each data point to its closest k-center, those data points which are near to the particular k-center. create a cluster,
Hence each cluster has data points with some commonalities & it is away from other clusters.