

In this practical, we will study in detail about K Mean clustering and also study one of the it's application

1. In the first we will write code to perform K Mean clustering for following dataset.

Note: you don't have use any available function of K Mean clustering. You have to write entire code for algorithm. [Try for random value of K and give what is optimize value of K using elbow curve].

X = [10,14,8,12,15,12,15,17,5,18,22,25,35,21,39,27,25,33,30,36]

Y = [8,25,10,30,35,12,14,15,22,32,2,21,35,7,15,29,33,23,17,11]

2. Now We are going to apply K-means clustering on simple digits dataset. K-means will try to identify similar digits without using the original label information.

Note: Use following command to import dataset.

from sklearn.datasets import load_digits

You may use [Python](#) for this exercise