EXPERIMENT NO-9 DATE: 18/4/22

AIM OF THE EXPERIMENT: WRITE A PROGRAM IN PYTHON TO IMPLEMENT K-MEANS CLUSTERING ALGORITHM.

THEORY:

K-means clustering is a very famous and powerful unsupervised machine learning algorithm. It is used to solve many complex unsupervised machine learning problems.
A K-means clustering algorithm tries to group similar items in the form of clusters. The number of groups is represented by K.

How Does the K-means clustering algorithm work?

K-means clustering tries to group similar kinds of items in form of clusters. It finds the similarity between the items and groups them into the clusters. K-means clustering algorithm works in three steps. Let's see what are these three steps.

1. Select the k values.
2. Initialize the centroids.
3. Select the group and find the average.

SOURCE CODE & OUTPUT:

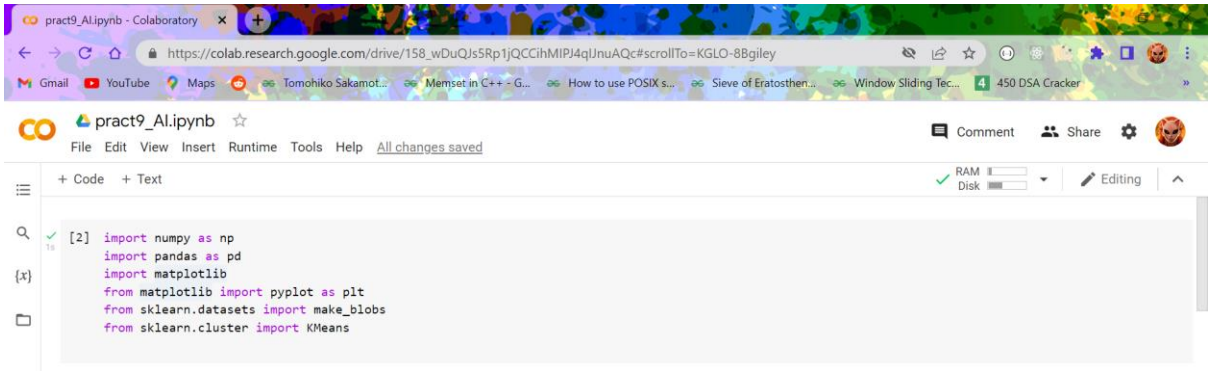

Fig 9.1 Code for installing packages

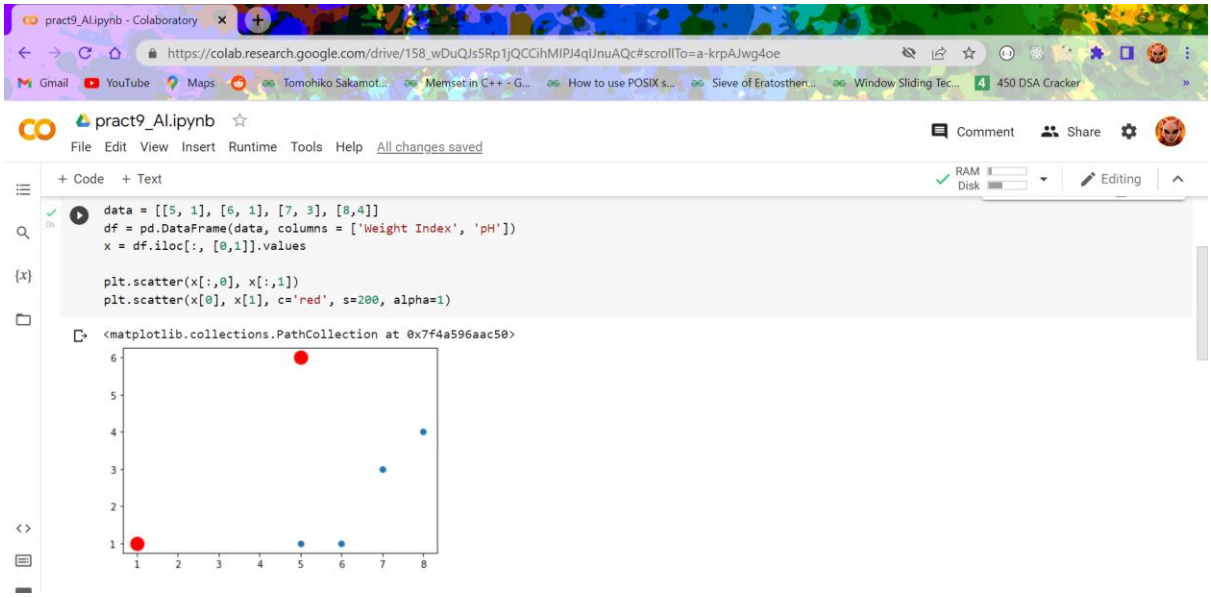

Fig 9.2 Plotting Graph

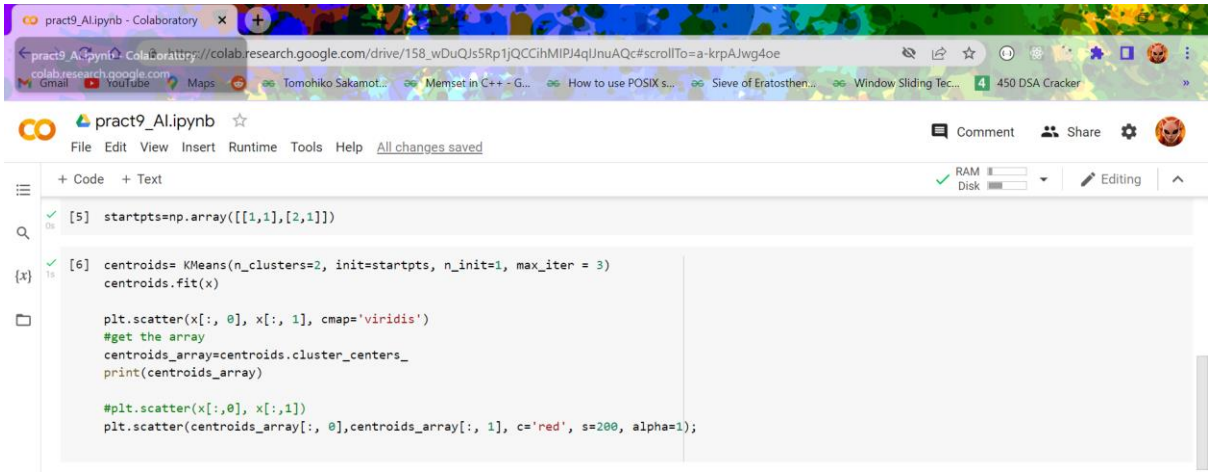

Fig 9.3 Forming clusters and fitting accordingly

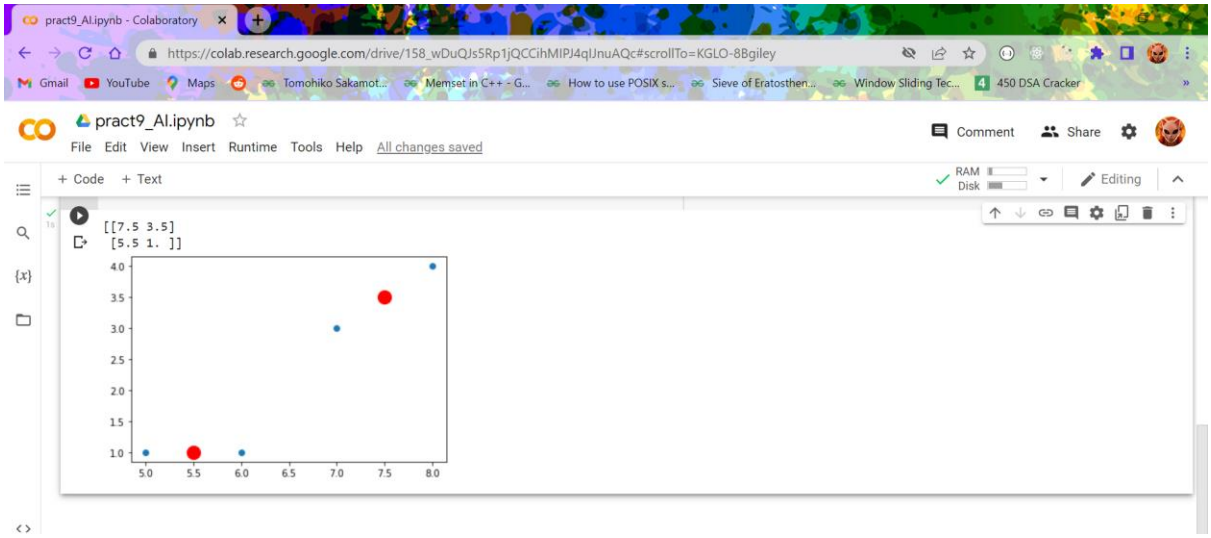

Fig 9.4 Final output