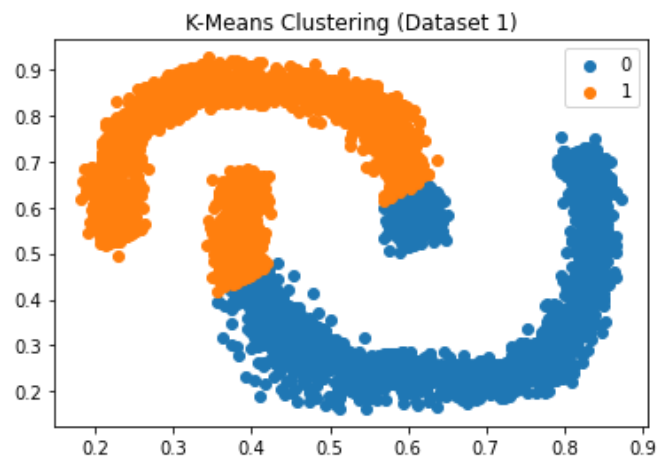
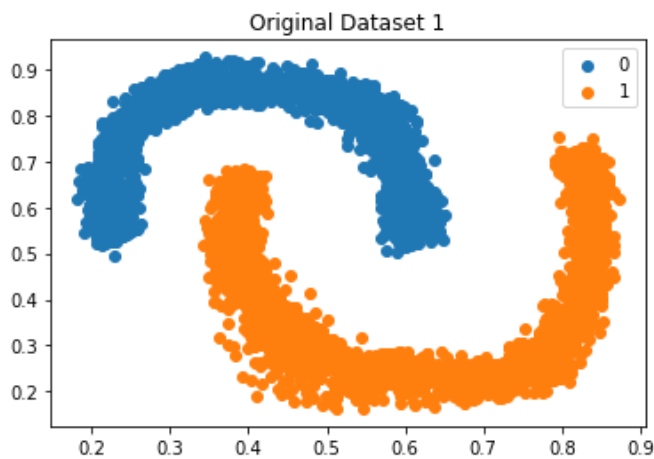


# Assignment 3 Solutions

Vaibhav Kumar  
20d070087

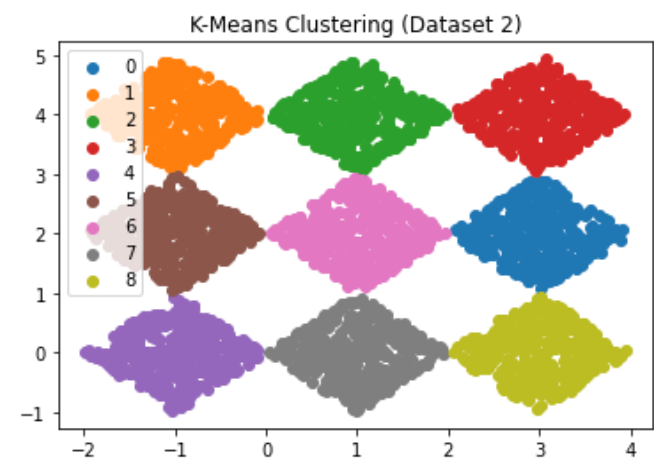
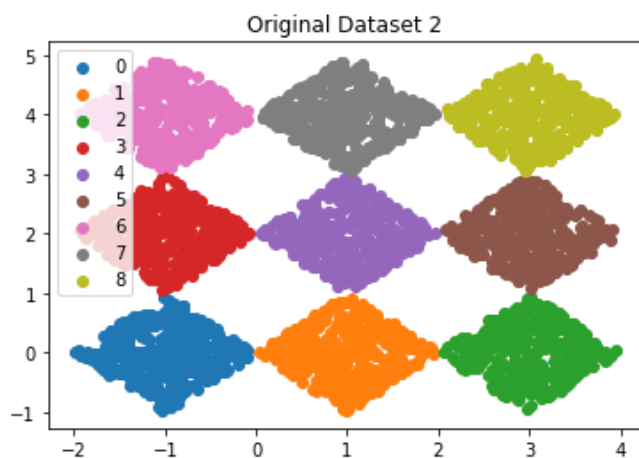
Ashok Kumar  
200110021

- Dataset 1

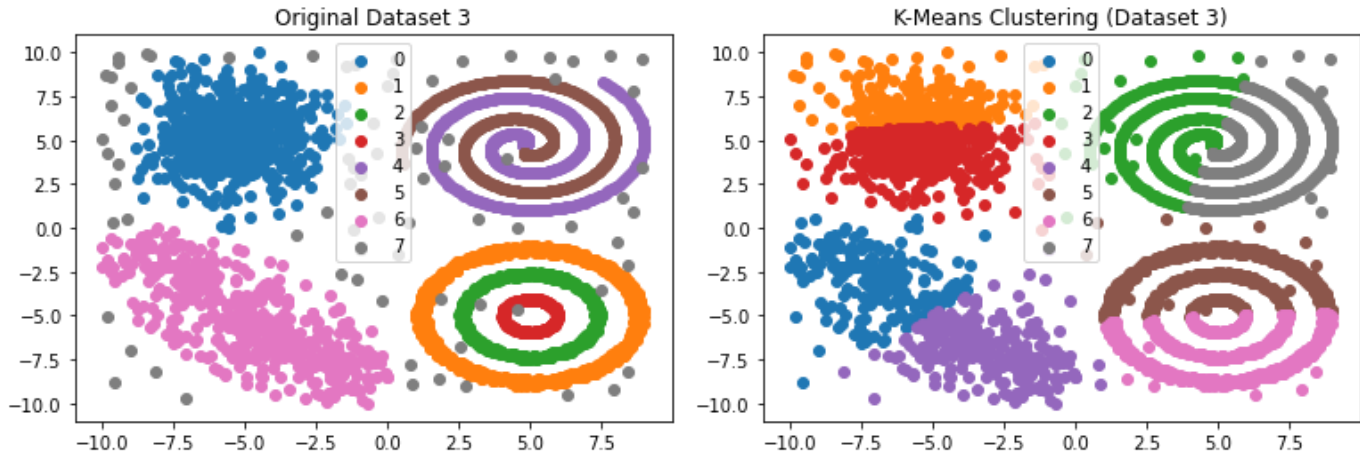


**Reason for failing:** Because some data points of each class are near to other class points hence they are classified wrongly.

- Dataset 2



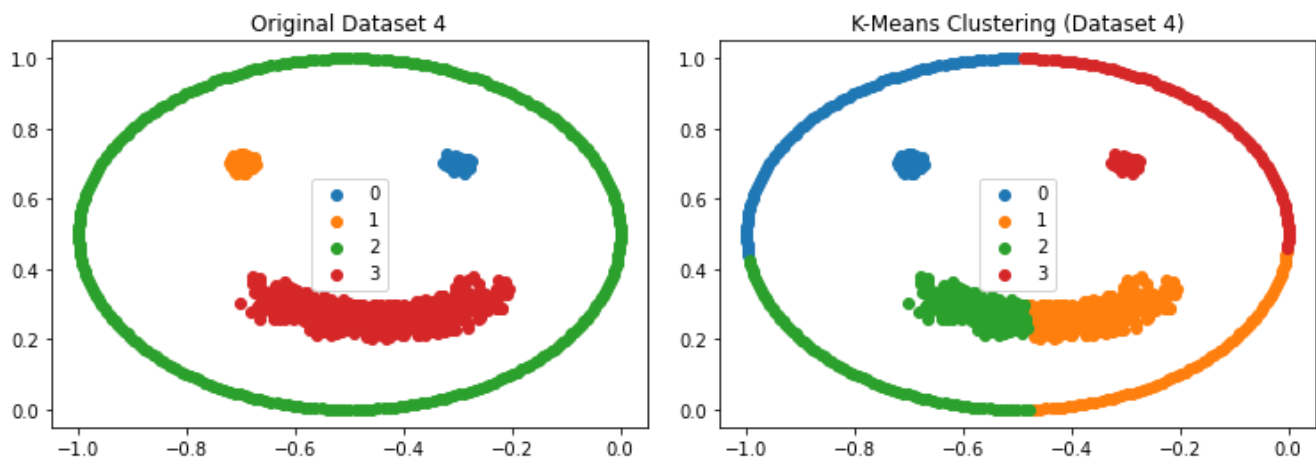
### • Dataset 3



#### Reason for failing:

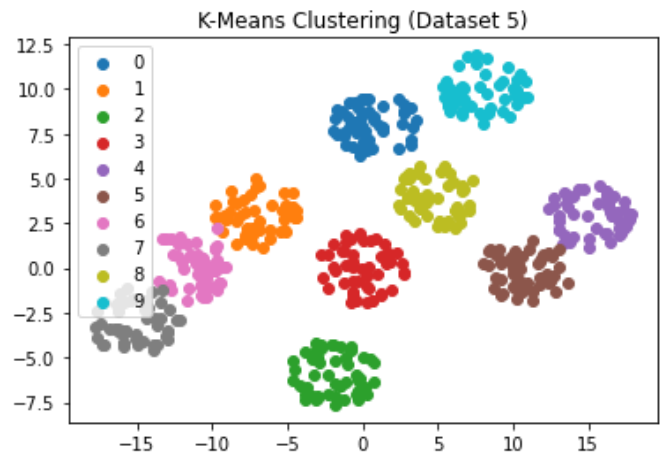
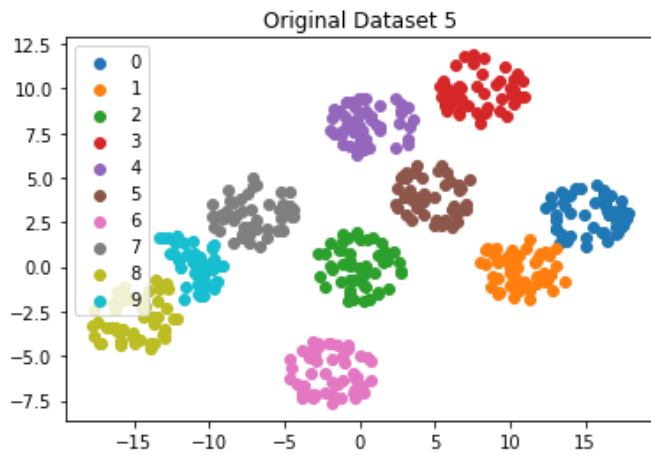
- Firstly it contains noise which is difficult to classify in single class by k-mean clustering so it is distributed among different classes, also then we have one class extra so one cluster is broken in two parts (we can see in plot) .
- Secondly, circular type of datasets are difficult to classify because mean value of such clusters are close.

### • Dataset 4

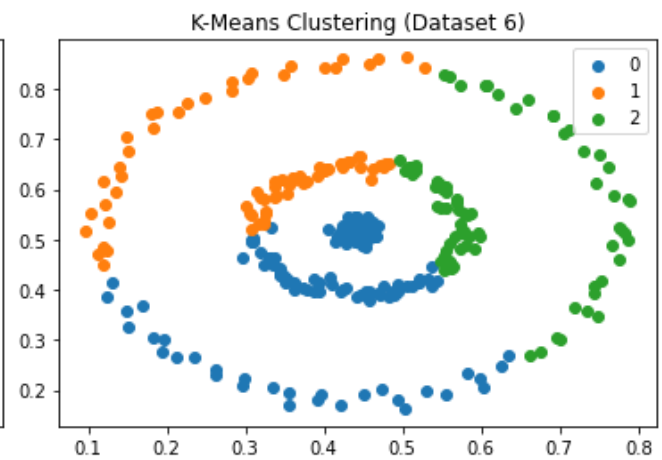
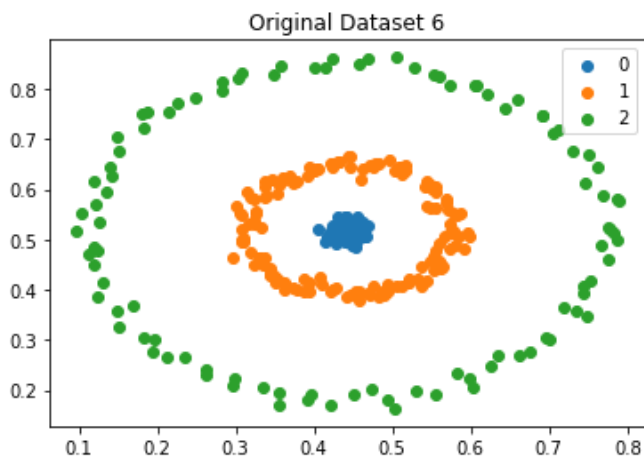


**Reason for failing:** because smile and eyes are close to outside class (circular) hence difficult to classify.

- **Dataset 5**



- **Dataset 6**



**Reason for failing:** circular type of datasets are difficult to classify because mean value of such clusters are close.