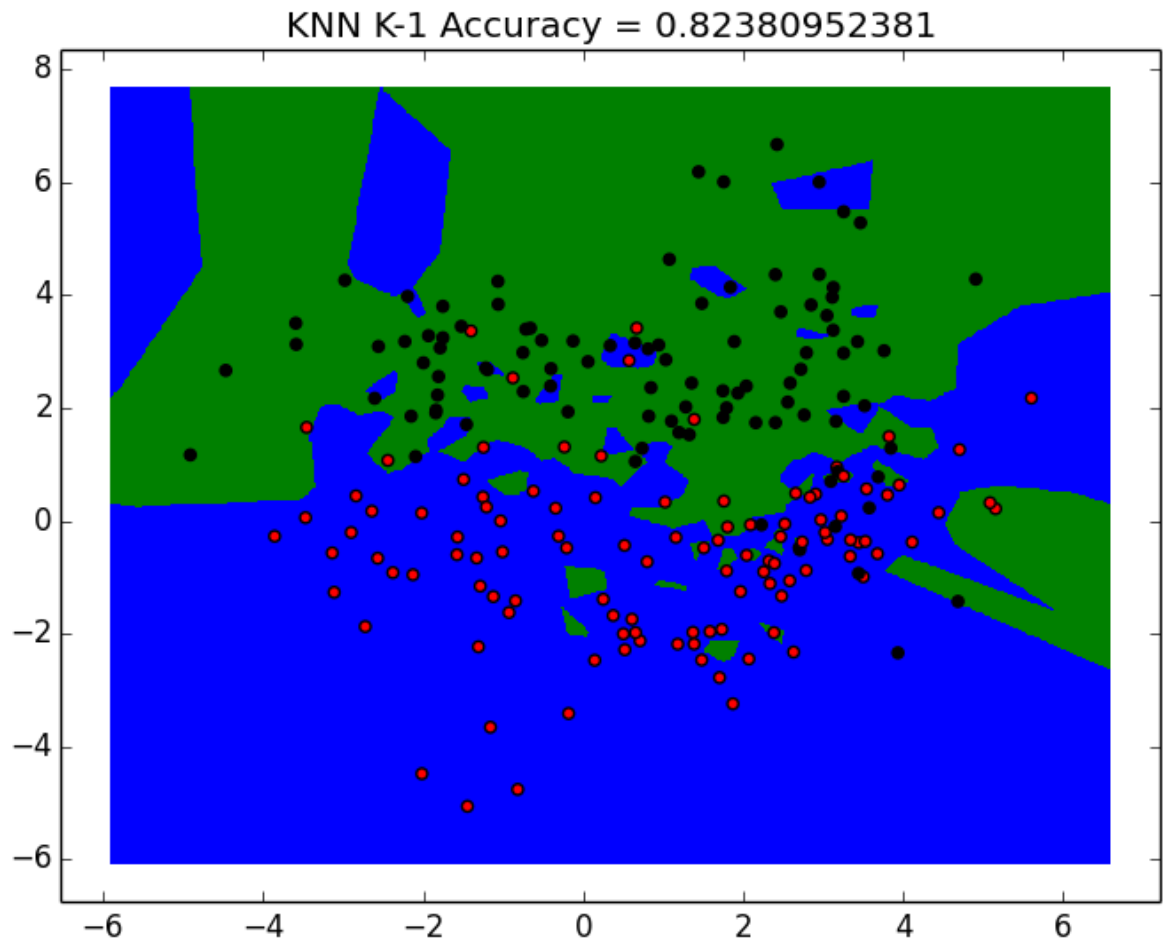


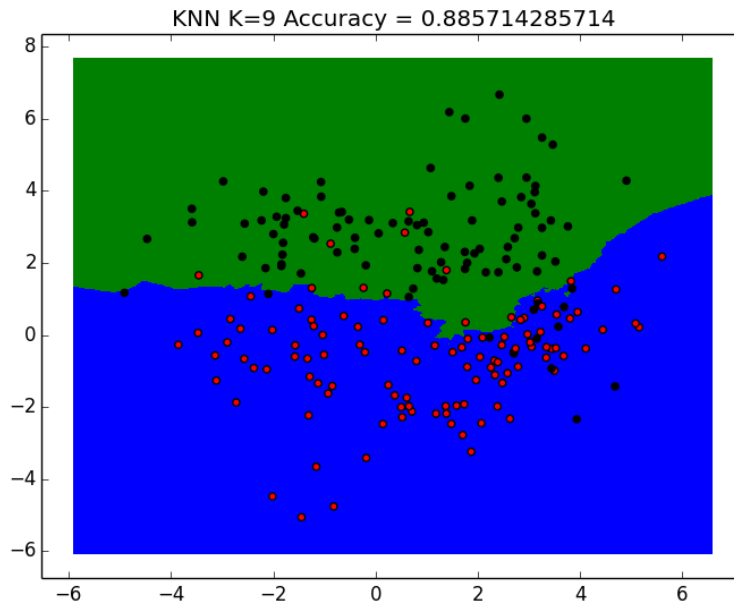
ML-Assignment-1

Q4a>

K = 1 Accuracy = 82.3809%

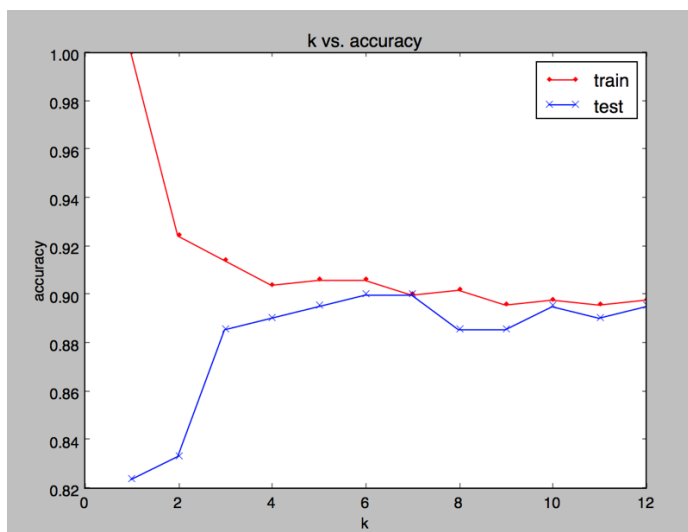


K = 9 Accuracy = 88.5714%



As seen in the above graphs Knn-9 is more robust to outliers than Knn-1 because Knn-1 is useful only when there is a very large data set which can make a D-dimensional space highly dense so that whenever there is a point in subspace with lot of neighbors and y is one of the nearest neighbors then by decision theory one can say x and y have the same class. If the data set is small knn-1 is more susceptible to noise that is the outliers. For knn-9, although running the algorithm will be computationally expensive but algorithm will find a class with majority in its nearest neighbor and will correctly classify the instance.

Q4b>



Q6> Naïve Bayes

- Used Gaussian Distribution
- Coded in python using pandas and sklearn library
- Accuracy = 79.54 and error = 20.46
- File and data submitted searately