**Question 2 (b) - Problem Statement -** The data used for training is available in data/iris.csv. The samples used for training the classifier in this repository come from the famous Iris flower dataset.

The Iris flower data set is a multivariate data set consisting of 50 samples from each of three species of Iris (Iris setose, Iris virginica and Iris versicolor). Four features were measured from each sample: The length and the width of the sepals and petals, in centimetres. Based on the combination of these four features, it is possible to develop a discriminant model to distinguish the species from each other.

**Some Observations -**

**When value of cluster = 2**

Number of training samples: 125

Number of test samples: 25

Fitting classifier to data:

Total iteration: 0 - Total Calculated Loss: 222.4892

Total iteration: 1 - Total Calculated Loss: 143.0413

Total iteration: 2 - Total Calculated Loss: 140.2909

Total iteration: 3 - Total Calculated Loss: 127.1446

Total iteration: 4 - Total Calculated Loss: 93.2950

Total iteration: 5 - Total Calculated Loss: 69.4813

Total iteration: 6 - Total Calculated Loss: 66.6613

Total iteration: 7 - Total Calculated Loss: 66.4687

Total iteration: 8 - Total Calculated Loss: 66.4448

Total iteration: 9 - Total Calculated Loss: 66.4411

Total iteration: 10 - Total Calculated Loss: 66.4406

Total iteration: 11 - Total Calculated Loss: 66.4405

Total iteration: 12 - Total Calculated Loss: 66.4405

Total iteration: 13 - Total Calculated Loss: 66.4405

Total iteration: 14 - Total Calculated Loss: 66.4405

Predicting unseen data using Sungeno Classifier/ Clustering Technique:

Total Final Accuracy: 0.96

**When value of cluster = 5**

Number of training samples: 125

Number of test samples: 25

Fitting classifier to data:

Total iteration: 0 - Total Calculated Loss: 230.1342

Total iteration: 1 - Total Calculated Loss: 136.1960

Total iteration: 2 - Total Calculated Loss: 135.1462

Total iteration: 3 - Total Calculated Loss: 130.1360

Total iteration: 4 - Total Calculated Loss: 112.3892

Total iteration: 5 - Total Calculated Loss: 83.0526

Total iteration: 6 - Total Calculated Loss: 70.7050

Total iteration: 7 - Total Calculated Loss: 69.7650

Total iteration: 8 - Total Calculated Loss: 69.7213

Total iteration: 9 - Total Calculated Loss: 69.7176

Total iteration: 10 - Total Calculated Loss: 69.7171

Total iteration: 11 - Total Calculated Loss: 69.7171

Total iteration: 12 - Total Calculated Loss: 69.7170

Total iteration: 13 - Total Calculated Loss: 69.7170

Total iteration: 14 - Total Calculated Loss: 69.7170

Predicting unseen data using Sungeno Classifier/ Clustering Technique:

Total Final Accuracy: 1.0