**MCA 5141 – Machine Learning Lab**

**Week – 7**

**EXER 1:**

Consider the 'HousePrice.csv' dataset which describes the features and sale price of a house. Build a regression model using regularization to predict the value of the properties.

1. Perform the preprocessing if required, scale the train and test data using standard scaler.
2. Split the dataset into train size of 70% and test size of 30% and Apply the Ridge and Lasso regression and fit the model containing all independent variables.
3. Make predictions on test data “HousePriceTest.csv” and tabulate performance of both models on unseen data.

**EXER 2**

1. For the IRIS data set write down the meta information.
2. Visualize the class label against the predictor variable using appropriate plots.
3. Use the IRIS data set to build a logistic regression model (using sklearn) and predict the class label ‘Species’. Divide the dataset into training and test set (70,30) using train\_test\_split method in sklearn.
4. Analysis and visualize the performance of the classifier using metrics, confusion matrix.
5. Use the IRIS data and KNeighborsClassifier (using sklearn) and predict the class label ‘Species’ for k value between 2 and 20. Divide the dataset into training and test set (70,30) using train\_test\_split method in sklearn.
6. Identify the best k (for k between 2 and 20) for the model built.
7. Comment on the classifier (Logistic Regression or KNeighborsClassifier ) that has a better performance for the IRIS dataset.