CSc-561-Machine Learning

Lab Assignment 1

**Perform the following activities:**

1. Download the *HousePrice.csv* (https://www.kaggle.com/vikrishnan/boston-house-prices) and visualize it using Matploitlib or any other plotting library. Hint: Choose any one or two attribute with respect to price to visualize and further processing of data for easiness)
2. Implement the linear regression Algorithm:

Loop{

For i=1 to m{

ϴj+1=ϴj+α(yi-h(xi)).xj

}

}

This is a stochastic update rule for LMS

1. Try to normalize the data in between [0-1] using min-max normalization and use this normalized data in above algorithm and analyze the output.

Hint

def normalize(X):

mins = np.min(X, axis = 0)

maxs = np.max(X, axis = 0)

rng = maxs - mins

norm\_X = 1 - ((maxs - X)/rng)

return norm\_X

1. Implement the Logistic Regression and list the coefficient ϴ0, ϴ1 and ϴ2for the dataset- *LogisticDataset.csv.*
2. Modify the code for question 4 so that it could behave as perceptron learning algorithm. Predict the value of y for X=(5.8097,2.4711).