Dept. of CSE, NEUB
CSE 456: Machine Learning Lab Assignments

Code each algorithm. Each count 5 marks. Total 50 marks.

Submission policy:
Make Jupyter notebook for each algorithm separately. Put your name and registration number on the top of each notebook. You have to submit manually. No online submission. Viva will be held regarding this assignment. Copying code is strongly prohibited and student's effort in coding will be appreciated and may win bonus marks.

1. Linear Regression using the gradient descent method. Apply on salary_data **[#1 data]**
2. Binary Logistic Regression for single feature data. **[#2 data]**
3. Multiclass Logistic Regression for multiple features. Train your algorithm on the Iris dataset. **[#3 data]**
4. Decision Tree. Generate the decision tree for grade data.**[#4 data]**
5. Binary perceptron. Apply on toy data. **[#5 data]**
6. Multiclass perceptron. Apply on Iris dataset **[#3 data]**
7. KNN. Apply on Iris dataset. Try with k=3, 5, 7 **[#3 data]**
8. Naïve Bayes. Apply on the Bangla Sentiment analysis. [for the dataset, create 50 positive sentences and 50 negative sentences]
9. to_be_added
10. to_be_added

Datasets

#1 data	Salary_data [download]
#2 data	x=[10, 20, 30, 40, 50, 60, 70] y=[0, 0, 0, 1, 1, 1, 1]
#3 data	Iris data [download] Or, use the following code: from sklearn import datasets iris = datasets.load_iris() X = iris.data y = iris.target

#4 data	Grade data [4class download, 10 class download]
#5 data	Toy data download
#6 data	Bangla sentiment analysis data create 50 positive sentences and 50 negative sentences