**Assignment 2: Neural Network**

**Data Source:**

Kaggle: https://www.kaggle.com/c/digit-recognizer/data

**Model Formulation:**

* 1. Model is formulated with the help of PANDAS, NUMPY and MTPLOTLIB.
  2. Total 42000 digits dataset is used. 21000 for training and 21000 for testing.
  3. Simple MLPClassifier is used to train model and then test data.
  4. Code consist of two outputs one is of accuracy and other is representation of actual and predicted digit.
  5. Train.csv file is used as dataset of digits, downloaded from KAGGLE.

**Reasoning for selected model:**

MLPClassifier is used because of its efficient accuracy even 50:50 dataset is used to train and test data. Other classifier like decision tree is also tested but its accuracy is not as good as MLP.

**Results:**

Accuracy of this model on digit dataset of 42000 is 94.63%.

**Evaluation of results:**

Results are very good. We have tested it by entering custom written digits. Its accuracy is more than 90% in any case.