CMP LAB 10

Q. Perform Logistic Regression on IRIS and MNIST datasets for multiclass classification task.

Objectives:

- **Data Exploration and Preparation:**
  - Data Loading, Data Inspection (size, data type), Data Cleaning (if required), Data Visualization.(Visualize distribution, relationship among features using plot -hist/ scatter. Etc)
- **Model Building and Training:**
  - Model Evaluation: print accuracy, precision, recall, F1-score on the test dataset and know significance of each.
- **Parameter Tuning and Optimization:**
  - Hyperparameter Tuning: Experiment with different hyperparameters using techniques like cross-validation to improve model performance.
  - Feature Selection: Discuss feature importance and select relevant features if the dataset is high-dimensional.
- **Results Analysis and Interpretation:**
  - Print Confusion Matrix and know its significance.
  - Visualizing Results: Visualize decision boundaries, if possible, to gain insight into how the model is classifying data points.