ML Lab Assignment 2

Perform logistic regression on the Iris dataset to predict whether an Iris flower is of class Iris-Virginicia or not.

1. Load the Iris dataset into a Jupyter Notebook.
2. Explore the dataset to understand its structure and summary statistics.
3. Visualize the distribution of the target variable.
4. Handle missing values (if any) and perform any necessary data preprocessing steps.
5. Split Iris dataset into training and testing sets (e.g., 80% training, 20% testing).
6. Implement logistic regression
7. Train the logistic regression model on the training set.
8. Visualize the cost function over iterations during the training phase.
9. Evaluate the logistic regression model's performance on the testing set.
10. Calculate accuracy, precision, recall, and F1-score.
11. Visualize the ROC curve and calculate the AUC-ROC score.