**Introduction**

Here I have performed logistic regression on the data set that is not used in the class

**Objectives**

To perform the logistic regression on the given data set, predict the output for the given input and show the graph in Tensor Board

**Approaches/Methods**

In the beginning, I choose the MNIST dataset which is simple computer vision dataset. Then the dataset is loaded by using the pandas dataframe. For calculating the accuracy of the dataset, we will split the data into two sets. They are training dataset and test dataset. Then the model for logistic regression is built. Then the predictions will be made by using the model and the data. The error will be minimized by using the cross entropy. I created a TensorFlow session to train the logistic regression model with the training data and accuracy of the model is tested using the testing data.

**Workflow**

1-> Select the dataset

2-> Import the dataset

3-> Split the dataset

4-> Build the logistic regression model

5-> Minimize the loss

6-> Train the model and calculate the accuracy

**Dataset**

MNIST Dataset

**Parameters**

* Number of execution: 150 (the size of the dataset)
* Learning rate for optimizer: 0.001

**Evaluation**

First import the dataset that you have selected by using the pandas library in the Python. Pandas is a Python package providing fast, flexible and expressive data structures designed to make working with “relational” or “labeled” data both easy and Intuitive

.A screenshot of a cell phone

Description generated with high confidence

Then the model is built for logistic regression and tested by using the test data and accuracy is calculated.

A screenshot of a social media post

Description generated with very high confidenceA screenshot of a social media post

Description generated with very high confidenceA screenshot of a social media post

Description generated with very high confidence

Graph in Tensor Board:

A close up of a map

Description generated with very high confidence

Output:

A screenshot of a social media post

Description generated with very high confidence

**Conclusion**

The loss depends on the number of iterations. As the iterations increases the loss decreases. The model accuracy is 93%, this shows that our model is 93% accurate in predicting the results for the given inputs for the above dataset.