

AI-LAB ASSIGNMENT-08

Logistic Regression

We have trained the model with Hyper parameters:

Epochs:1000

Learning Rate:0.01

Loss Function:Cross Entropy Function

Accuracy of the model:

After running the model with test data we got:91.07% accuracy.

```
Epoch 100/1000, Training Accuracy: 92.38%  
Epoch 200/1000, Training Accuracy: 92.45%  
Epoch 300/1000, Training Accuracy: 92.50%  
Epoch 400/1000, Training Accuracy: 92.55%  
Epoch 500/1000, Training Accuracy: 92.59%  
Epoch 600/1000, Training Accuracy: 92.60%  
Epoch 700/1000, Training Accuracy: 92.60%  
Epoch 800/1000, Training Accuracy: 92.62%  
Epoch 900/1000, Training Accuracy: 92.65%  
Epoch 1000/1000, Training Accuracy: 92.66%  
Test Accuracy: 91.07%
```

Parameters of the model:

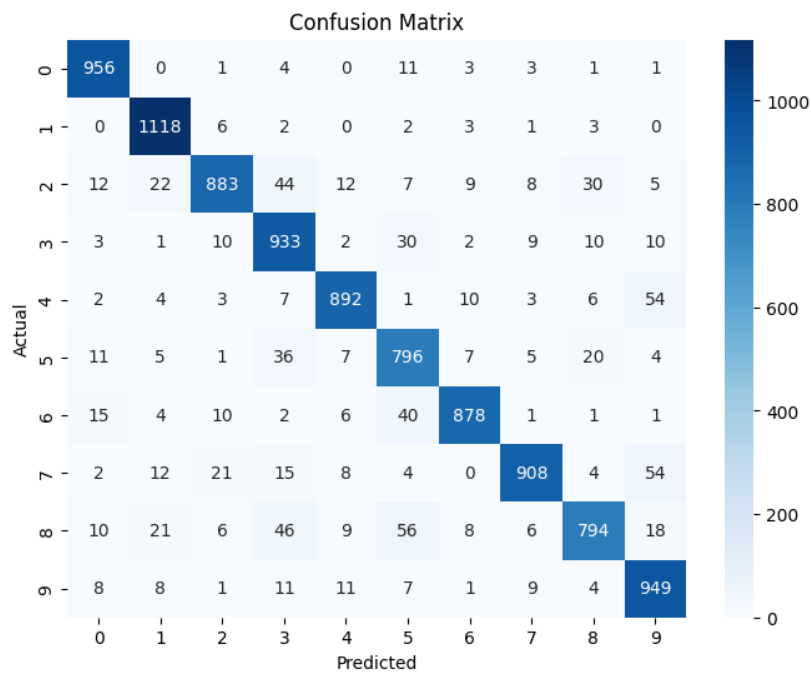
Parameters are we have 7840 weight parameter for every class we have 784 weight parameter

Total Number of Biases :10 for every class we have 1 bias value.

```
Model parameters saved to /content/drive/MyDrive/dataset/model_parameters.txt  
Number of Weight Parameters: 7840  
Number of Biases: 10
```

Confusion Matrix:

Confusion matrix of the model.



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