Lab - 1

Introduction

Logistic regression is a method for analyzing a dataset in which one or more variables determine the result which can be only two possible outcomes.

Objectives

To predict outcome variable from one or more variables.

Check if the probability of getting a value of dependent variable is related to independent variable.

Approaches

Using Tensor flow, we will train a logistic regression model, and for given sepal and petal length we will output a number between 0 and 1 which determines between Versicolor or Virginica.

Workflow
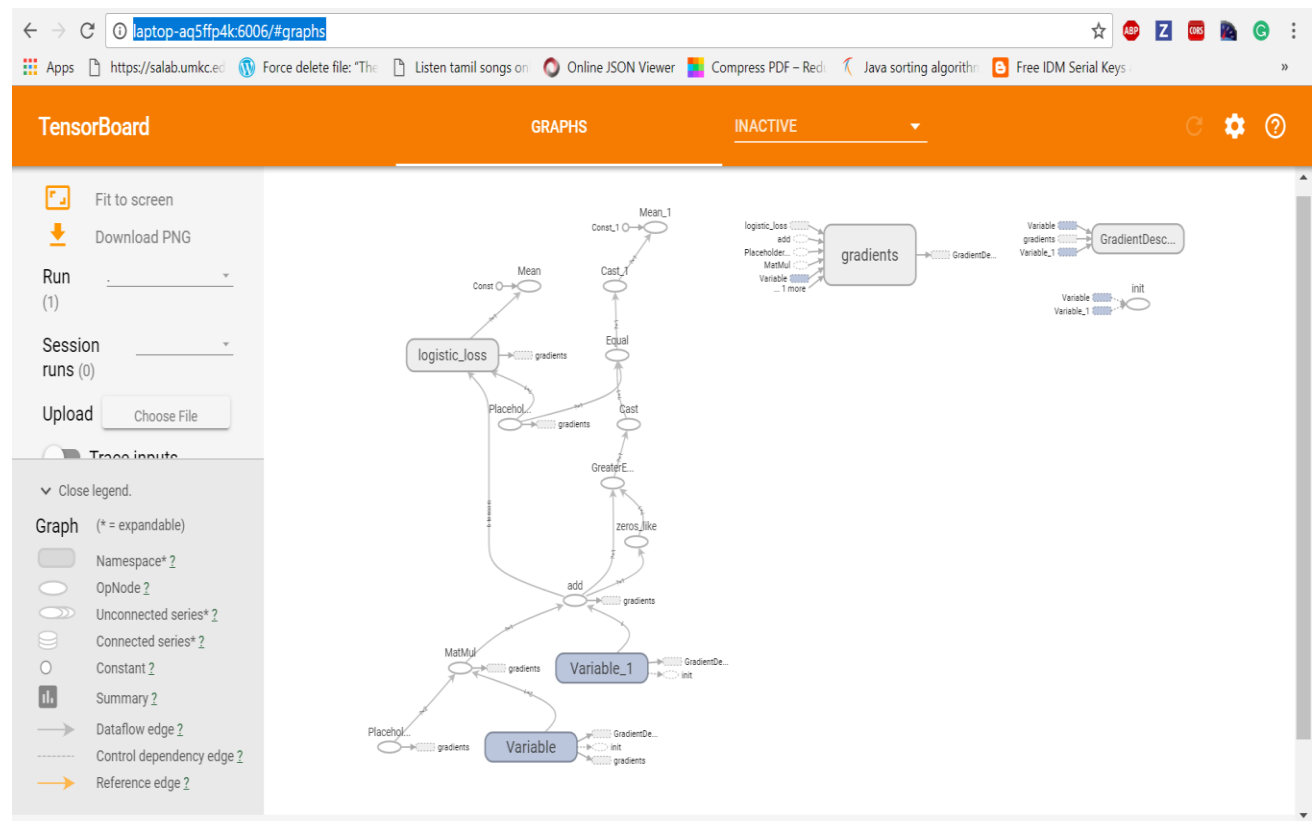
Datasets

Iris dataset – the columns in the dataset are

- Sepal length
- Petal length
- Versicolor or Virginica

Parameters

- 2 placeholders for storing input data
- Model parameters weights and biases
- Hyperparameters – learning rate and number of epochs

Evaluation

After 10 epochs, accuracy = 0.8181818127632141

After 20 epochs, accuracy = 0.8989899158477783

After 30 epochs, accuracy = 0.868686854839325

After 40 epochs, accuracy = 0.9090909361839294
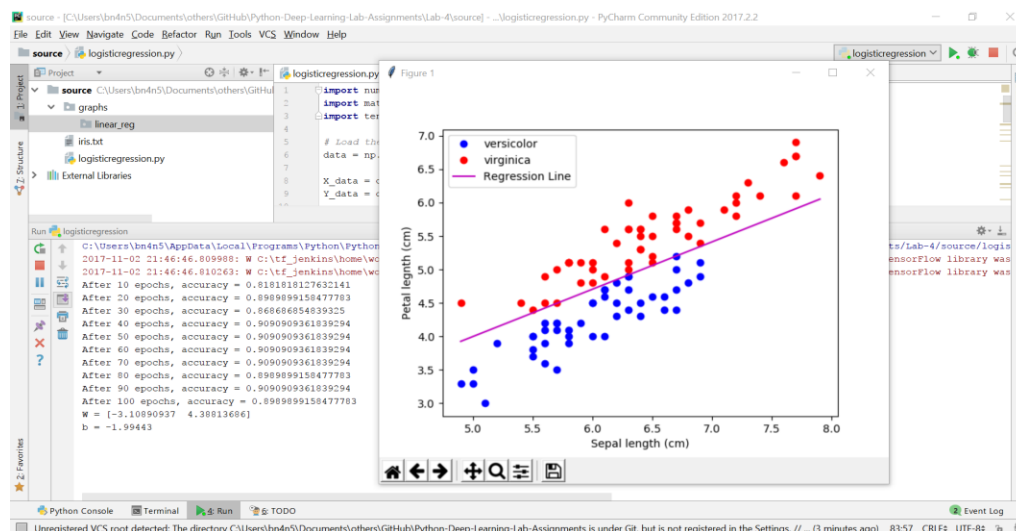
After 50 epochs, accuracy = 0.9090909361839294

After 60 epochs, accuracy = 0.9090909361839294

After 70 epochs, accuracy = 0.9090909361839294

After 80 epochs, accuracy = 0.8989899158477783

After 90 epochs, accuracy = 0.9090909361839294

After 100 epochs, accuracy = 0.8989899158477783

Conclusion

The logistic regression is implemented with iris dataset and predictions are plotted using mat plot library.