CSE 6363 - MACHINE LEARNING

ASSIGNMENT 1 REPORT

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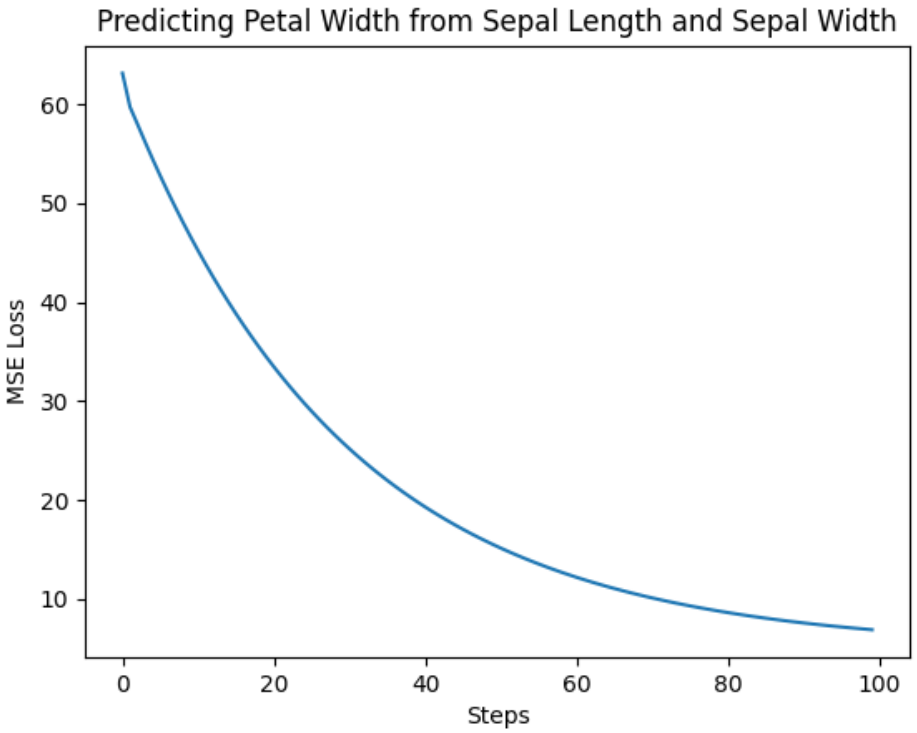
1. LINEAR REGRESSION

Performed linear regression on the Iris Dataset.
There are 4 models:

- Model 1: Petal Width from Sepal Length and Sepal Width
- Model 2: Sepal Width from Petal Length and Petal Width
- Model 3: Sepal Length from Petal Length and Petal Width
- Model 4: Sepal Width from Sepal Length and Petal Width

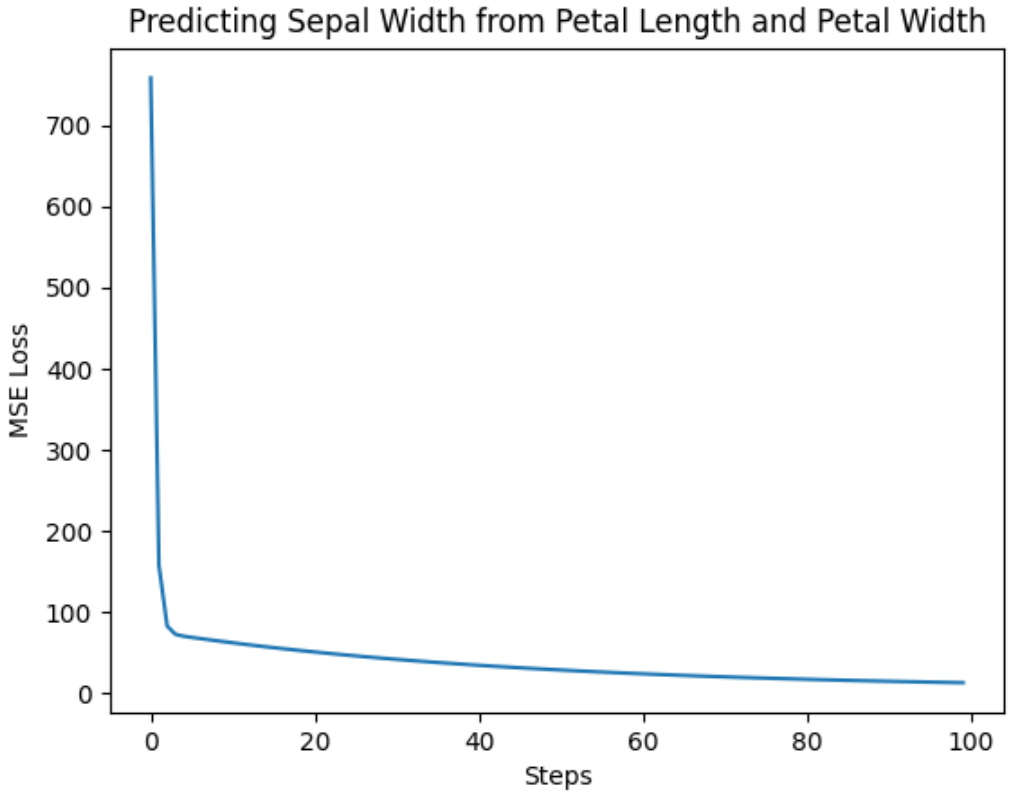
PLOTS FOR THE MODELS

Model 1



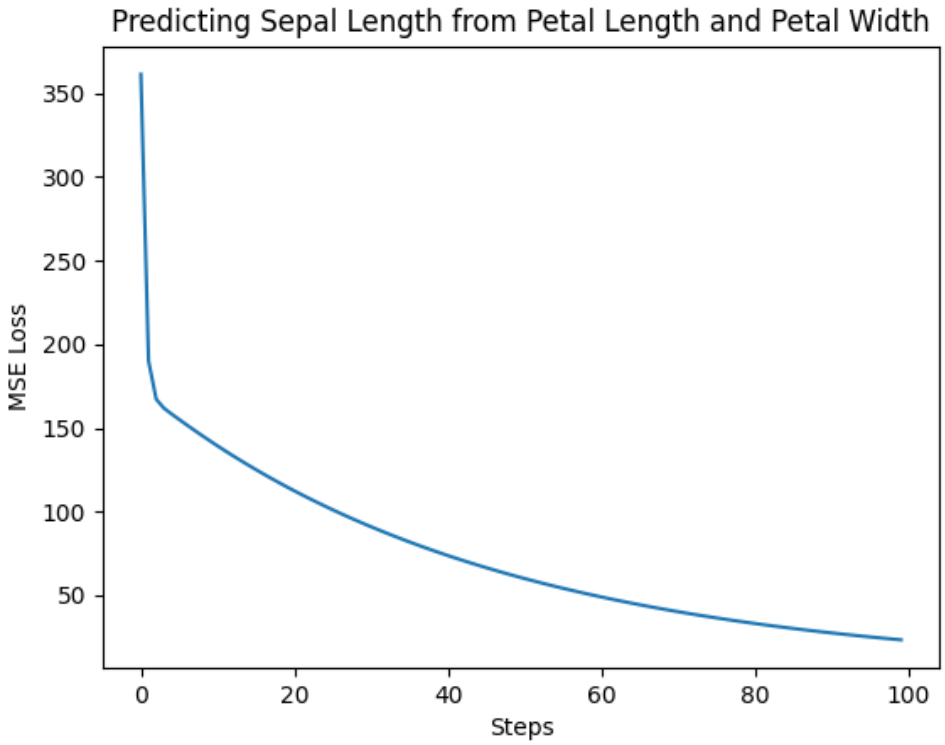
Mean Squared Error with Regularization: 0.23348765371543276
Mean Squared Error without Regularization: 0.26652344779171194

MODEL 2



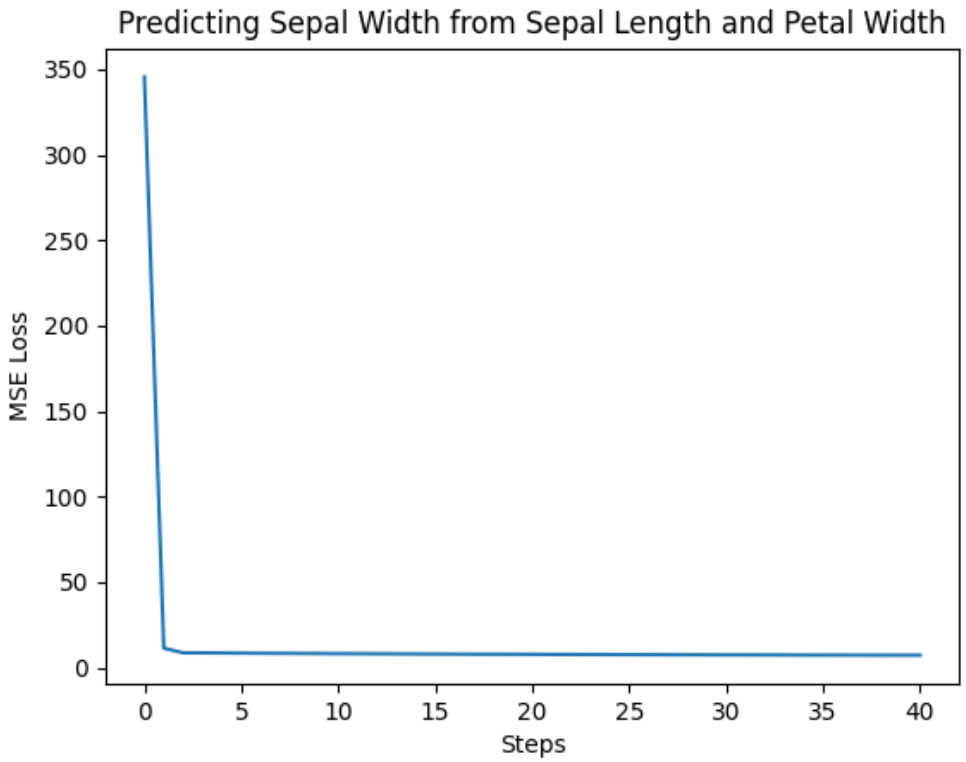
Mean Squared Error with Regularization: 0.41116394221752184
Mean Squared Error without Regularization: 0.41109903434516504

MODEL 3



Mean Squared Error with Regularization: 0.49504303633832997
Mean Squared Error without Regularization: 0.6933663872720953

MODEL 4

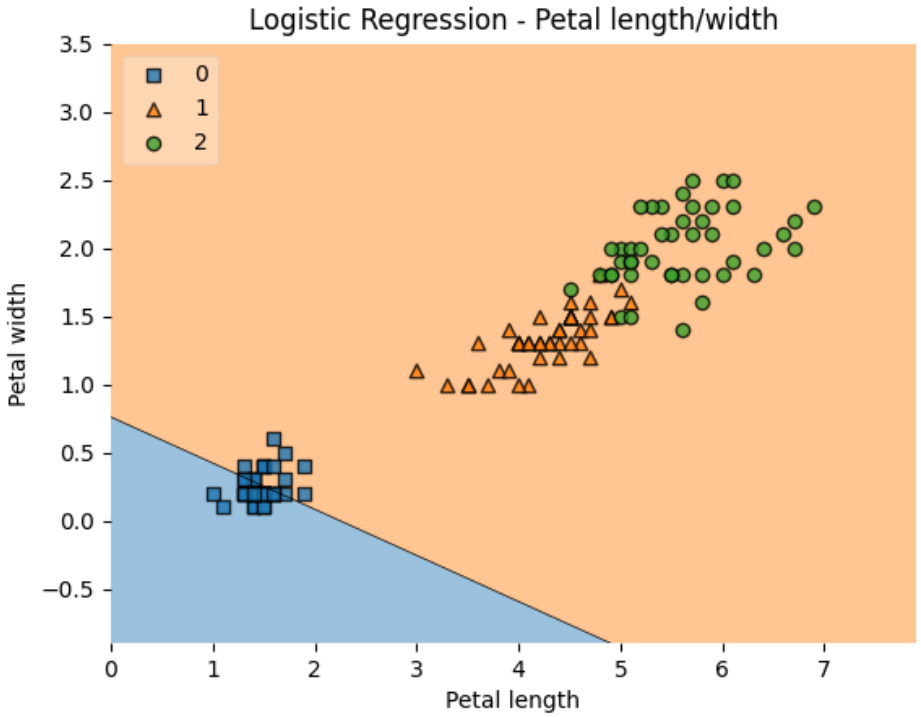


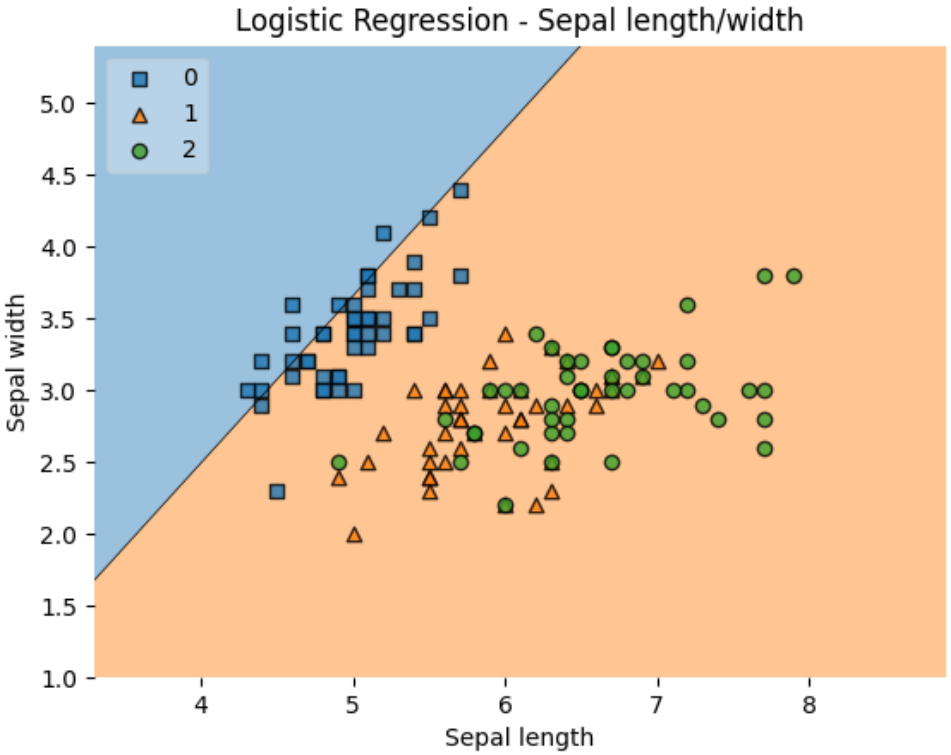
Mean Squared Error with Regularization: 0.5382263190373545
Mean Squared Error without Regularization: 0.26383682346150794

MODELS	MSE
Model 1	0.26652344779171194
Model 2	0.41109903434516504
Model 3	0.6933663872720953
Model 4	0.26383682346150794

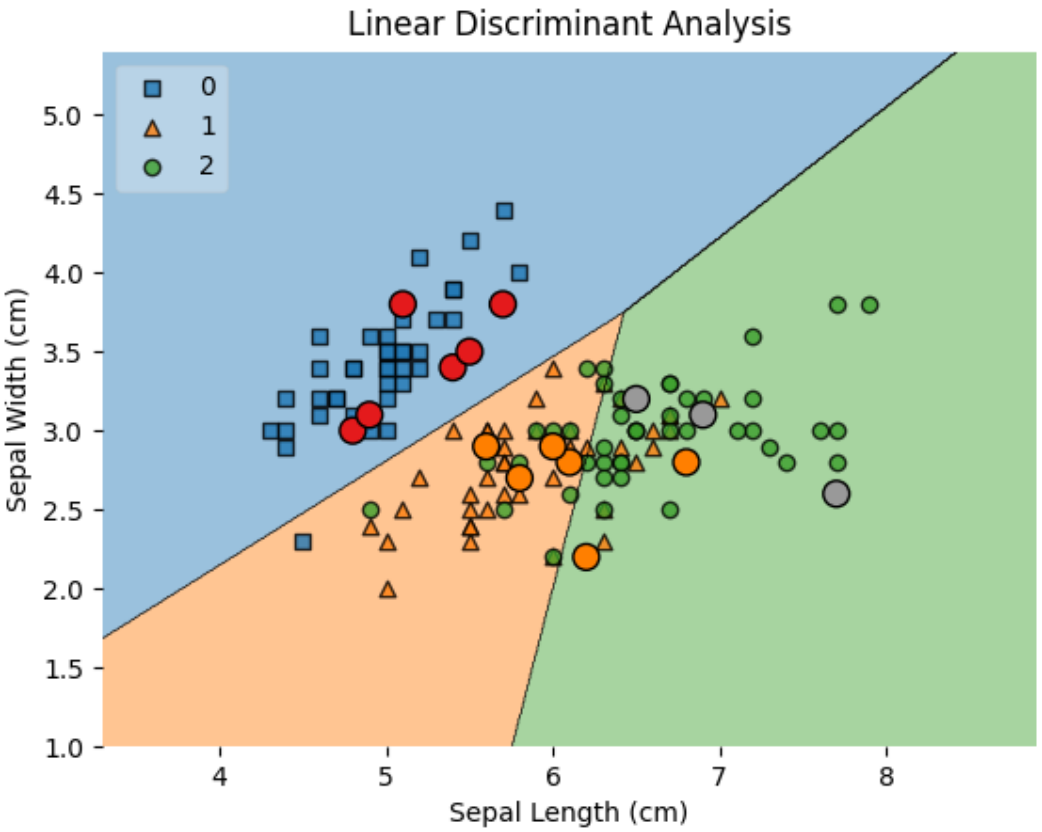
From the table we can observe that predicting Sepal Width from Sepal Length and Petal Width is more efficient.

2. LOGISTIC REGRESSION





3. LINEAR DISCRIMINANT ANALYSIS



Accuracy: 86.67%