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Lab 3 Report

Error Rates From Training and Testing Data

| Data Subset | LDA | QDA |
|--------------------|------------|------------|
| Training | 2.5% | 1.67% |
| Testing | 0% | 0% |

1. Firstly, it is important to note that the error rate when using QDA is lower than LDA. The reason for this is likely due to the fact that the covariances between the three classes are not exactly equal. In other words, we would find our classifier to correlate more closely to being non-linear, rather than linear.

Error Rates on Testing Data when Respective Attribute is Dropped

| Feature Selected | LDA | QDA |
|-------------------------|------------|------------|
| Sepal Length | 0% | 0% |
| Sepal Width | 0% | 0% |
| Petal Length | 0% | 0% |
| Petal Width | 3.33% | 3.33% |

2. After dropping each feature and testing on LDA and QDA, it is clear that 'Petal Width' should be treated with more importance than the other attributes. Even when we dropped each of the first 3 features, there was no error in predicting the correct flower class. However, we can see that when we dropped the 'Petal Width' class, we encountered a non-zero error rate which proves that this attribute is more deterministic when predicting a flower type.