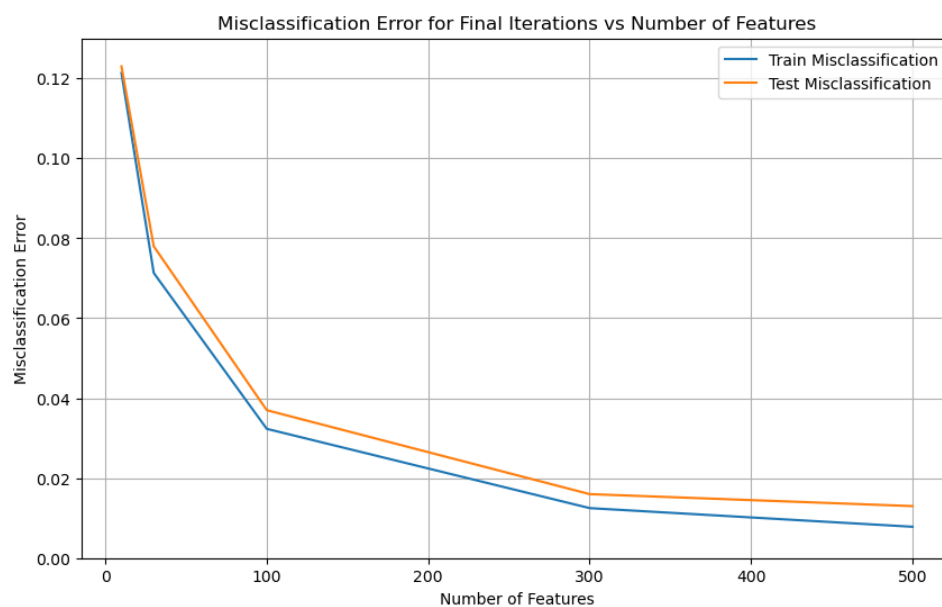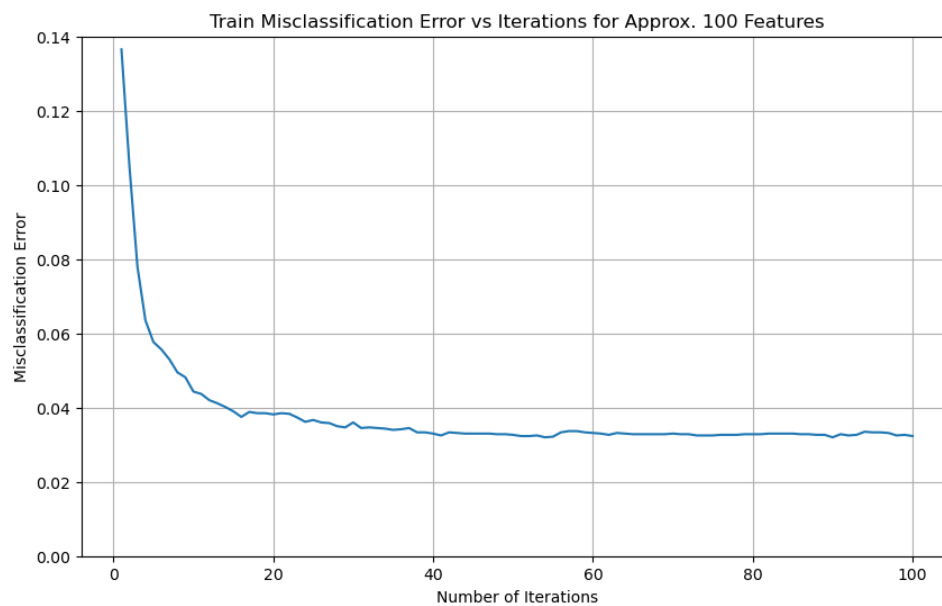# Homework 4

Evan Stansell
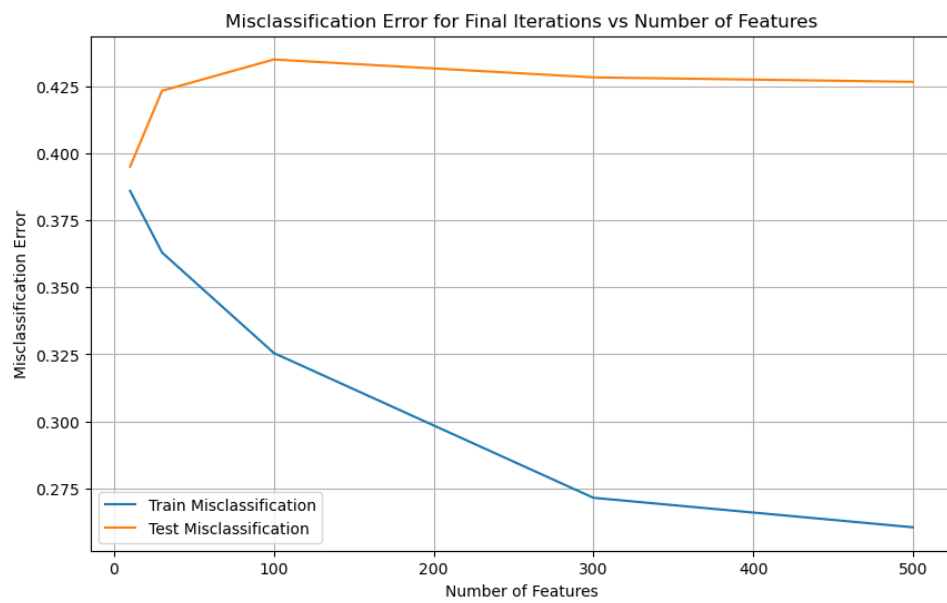
(a) Gisette dataset

Train Misclassification Error vs Iterations for Approx. 100 Features

Misclassification Error for Final Iterations vs Number of Features

ROC for 100 Features
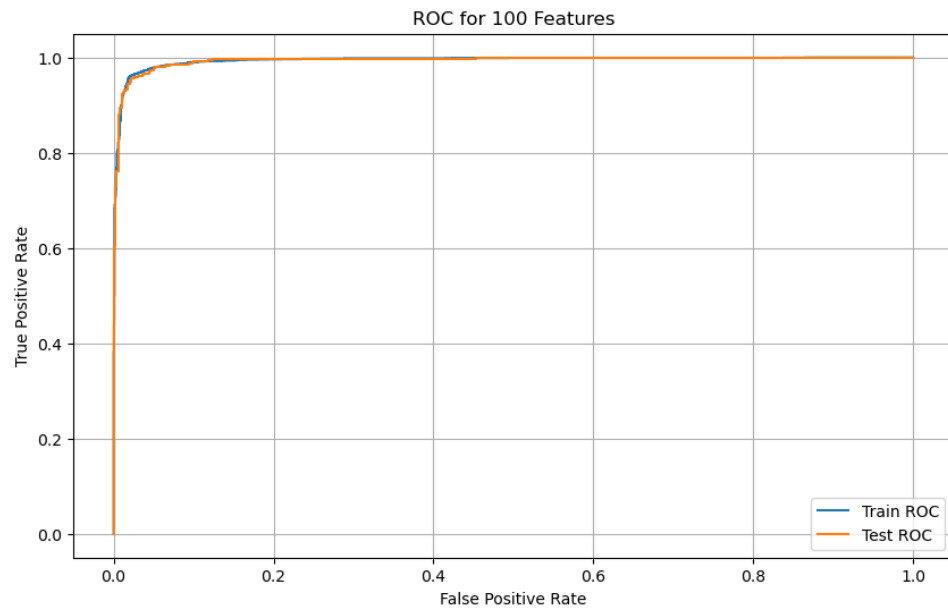
Lambda	Number of Features	Train Misclass	Test Misclass
0.19	10	0.121	0.123
0.133	30	0.071	0.078
0.088	98	0.032	0.037
0.053	299	0.012	0.016
0.0385	503	0.008	0.013

(b) Madelon dataset

Train Misclassification Error vs Iterations for Approx. 100 Features

Misclassification Error for Final Iterations vs Number of Features

ROC for 100 Features
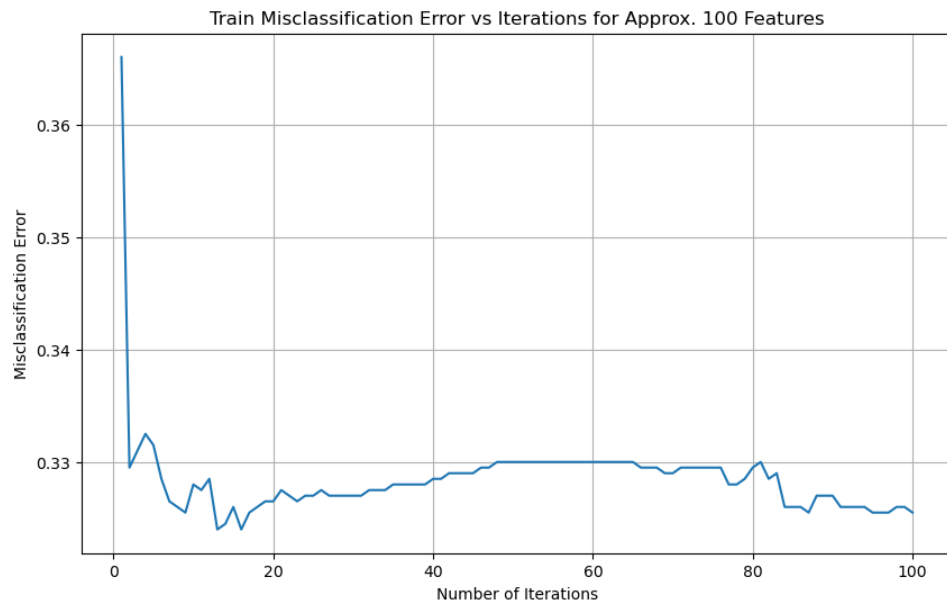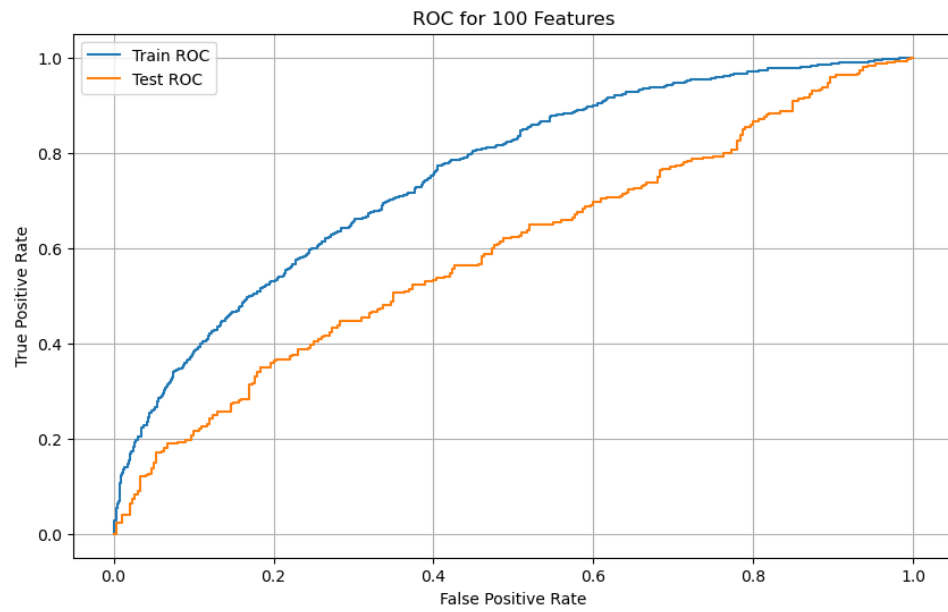
Lambda	Number of Features	Train Misclass	Test Misclass
0.0298	8	0.386	0.395
0.0242	31	0.363	0.423
0.017	101	0.326	0.435
0.00735	302	0.271	0.428
0.00002	501	0.260	0.427

(c) Dexter dataset

Train Misclassification Error vs Iterations for Approx. 100 Features

Misclassification Error for Final Iterations vs Number of Features

ROC for 100 Features
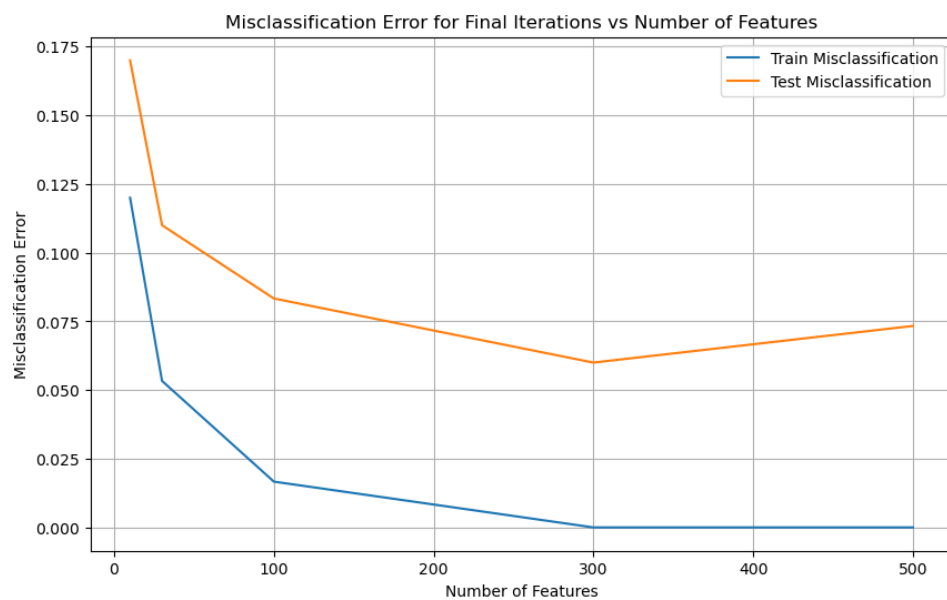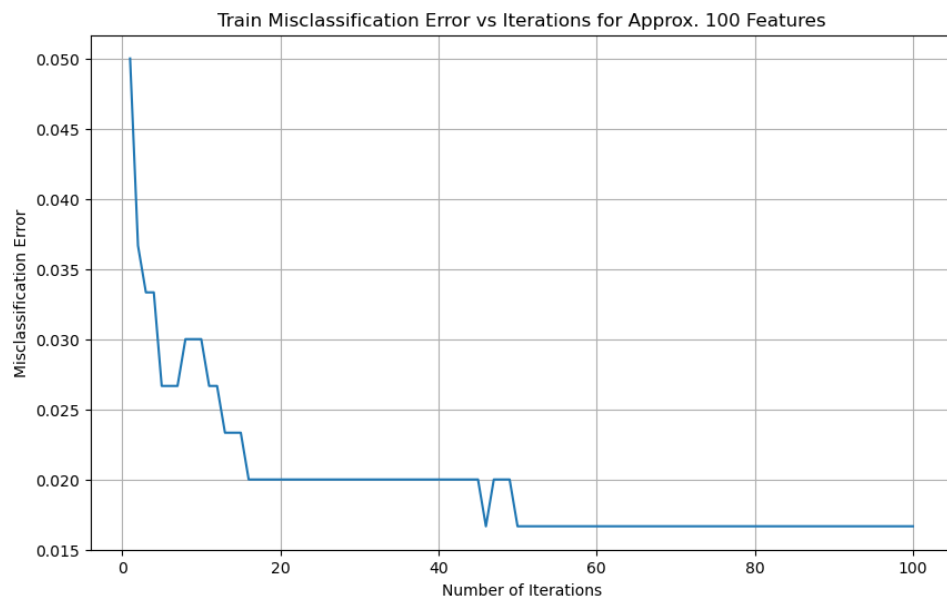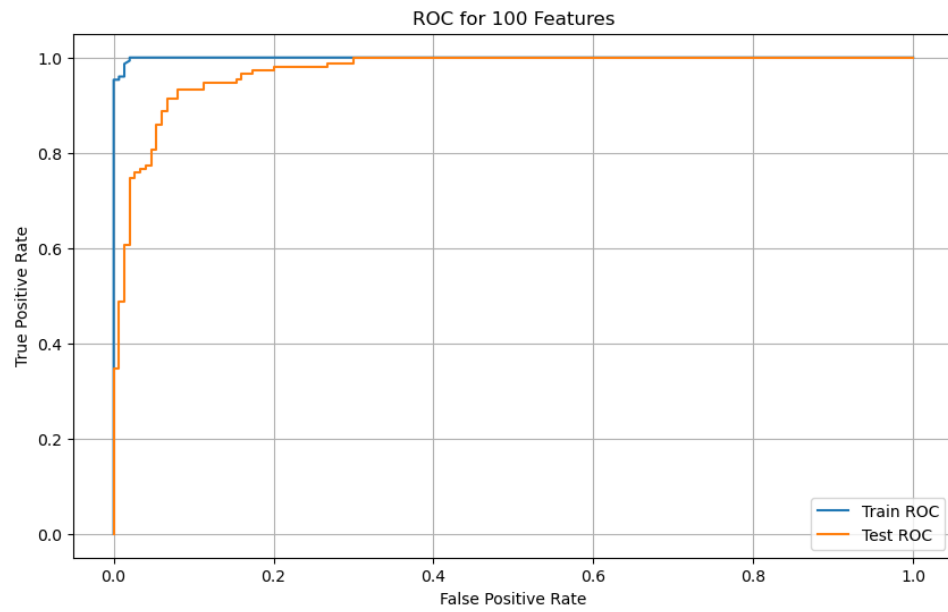
Lambda	Number of Features	Train Misclass	Test Misclass
0.14	11	0.120	0.170
0.099	29	0.053	0.110
0.071	101	0.017	0.083
0.0523	299	0.000	0.060
0.0466	500	0.000	0.073