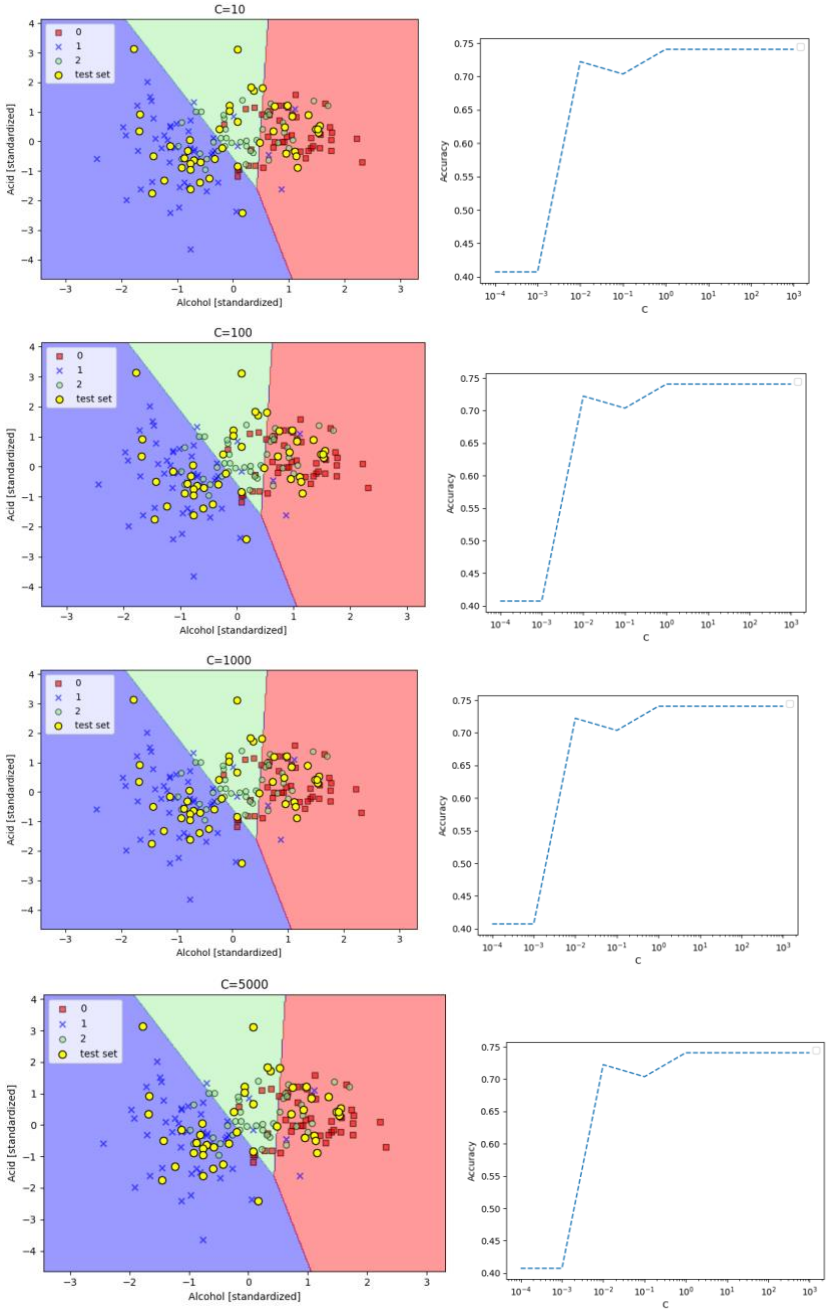
Daniel Rivera
SM1

Logistic Regression



As the C increased the lines, most noticeably on the blue line, started becoming less and less steep where it touches the green section. As C was becoming greater the model wanted to minimize the error on the training data which explains why the blue line became less steep. The accuracy on all graphs were extremely similar and became most accurate when c=10^-2. This is weird to me, but it does make sense because the data is being interpreted the same.

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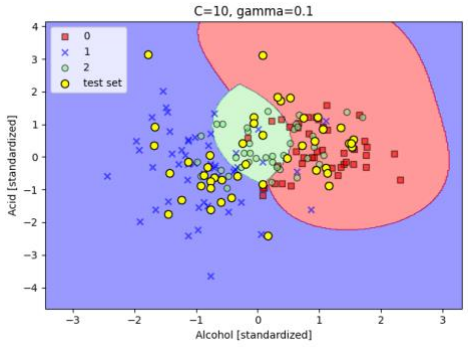
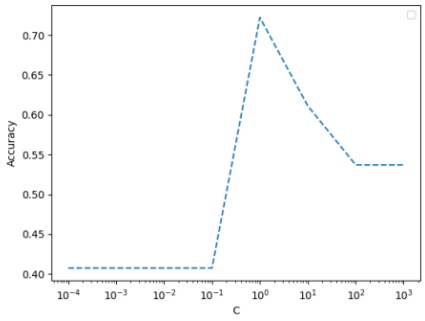
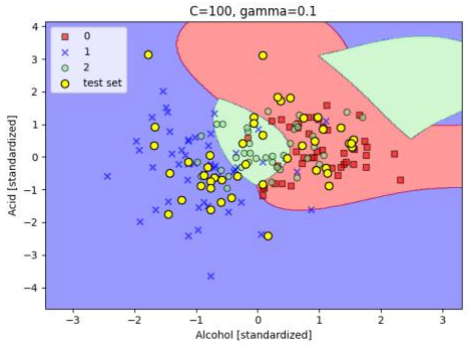
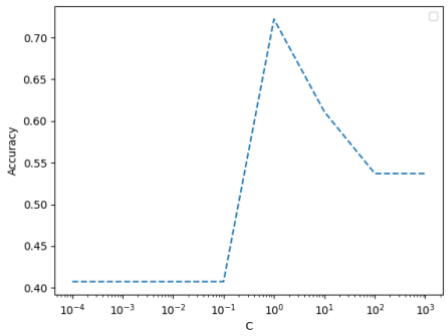
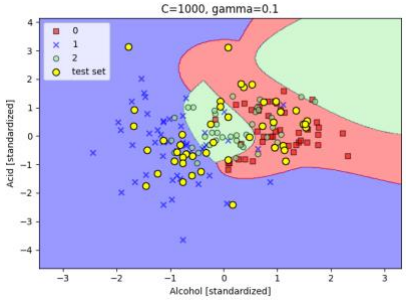
Support Vector Machine: gamma=0.1

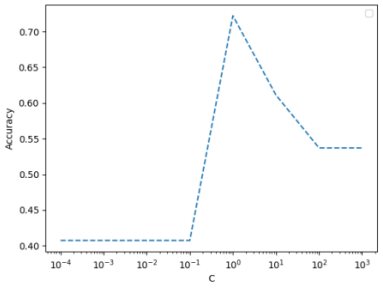


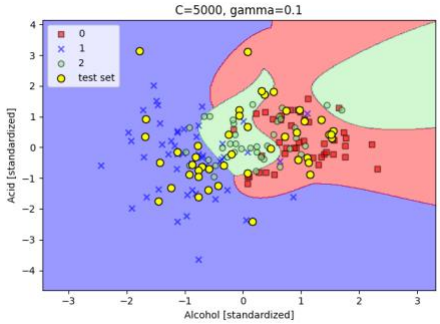


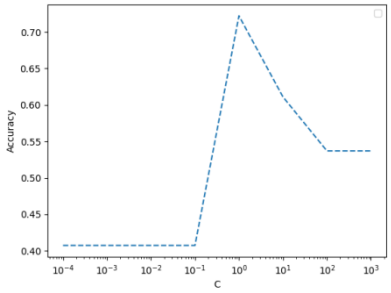












The way the data is grouped together compared to the Logistic Regression is completely different we switch from linear lines to bubbles, edges, and curved lines. The results also seem to be much more form fitting which could lead to overfitting if you provide much more data. The Accuracy score seems to peak potentially a fraction earlier however still seems to be most accurate at c=10^0 or 1.

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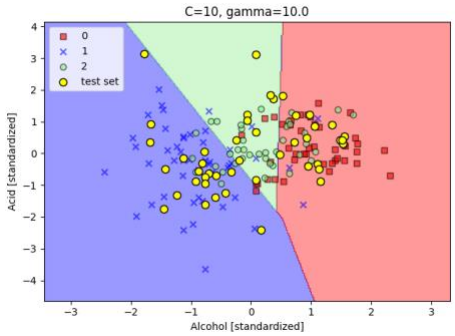
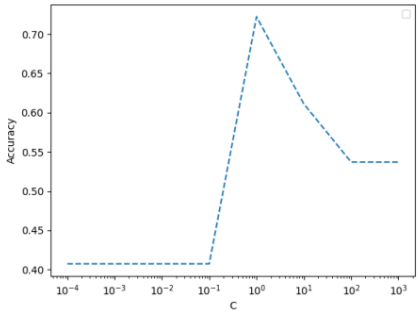
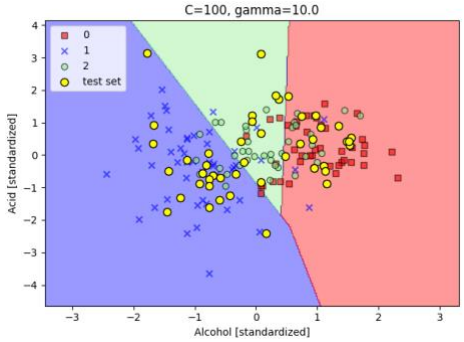
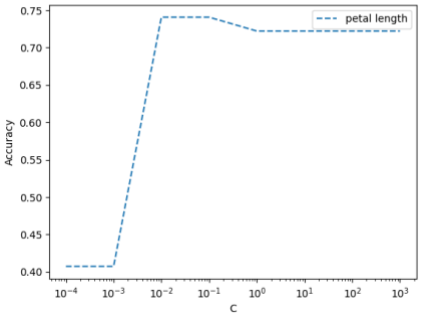
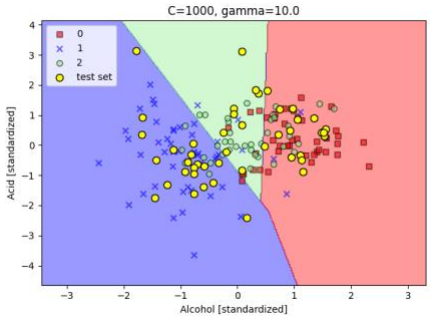
Support Vector Machine: gamma=10.0

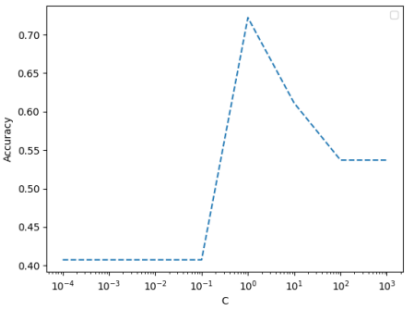


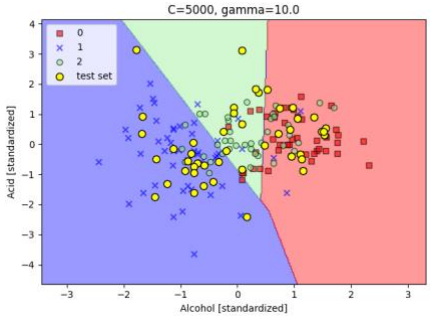


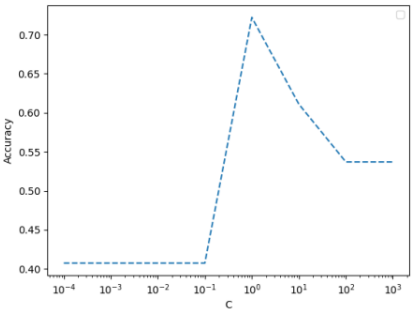












With the gamma at 10 it results in a much more logistic regression look than the previous SVM, however it keeps the accuracy of the previous model. The increase in gamma caused the model to be a lot stricter than when the gamma was decreased. The accuracy scores were still extremely similar to the other SVM model.