

### Exercise 6.2 (b)

The Simple learning algorithm produced a decision surface that did relatively well at finding a decision surface. It is clear from the plot (Simple.png) that it found a good decision surface and classified data points correctly for a small data set. It ran without a human operator tuning it. For this particular data set, it was a good algorithm.

The Perceptron algorithm ranged in its effectiveness according to the learning rate. The best overall rate was in the 0.1-0.5 range. As the learning rate moved toward 0.9, the decision surface intersected a data point.

The Maximum Margin algorithm was run with varying  $q$  and step values. It showed to be completely unaffected by variances to either variable. While it produced a margin bounding the entire set, it misclassified one data point.