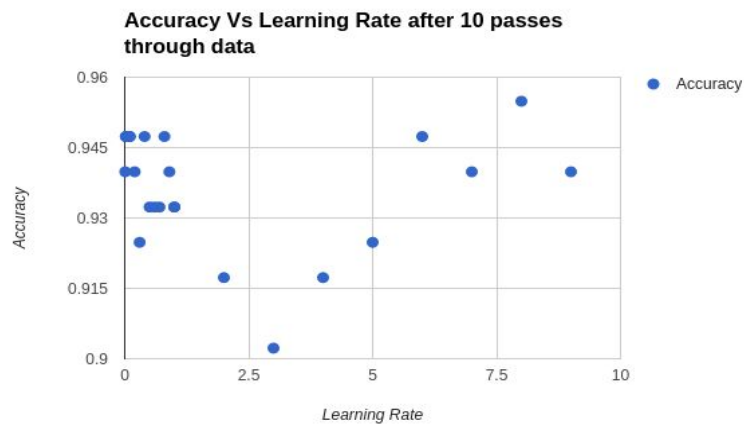Andrey Shprengel
CSCI 5622
Homework 2

1) After testing for the the accuracy verse learning rate I found that the best results seemed to cluster around around the default .1 after this it drops but appears to go back up around 8. The ideal learning rate depends on the number of passes through the data.

Accuracy Vs Learning Rate after 10 passes through data

2) Using the default .1 step size I looked at the the accuracy verse passes. It had very interesting characteristics, It would stay stable for a period of time and then drop down, this is likely due to overfitting. It seems to complete after 41 passes

Passes Vs Accuraccy
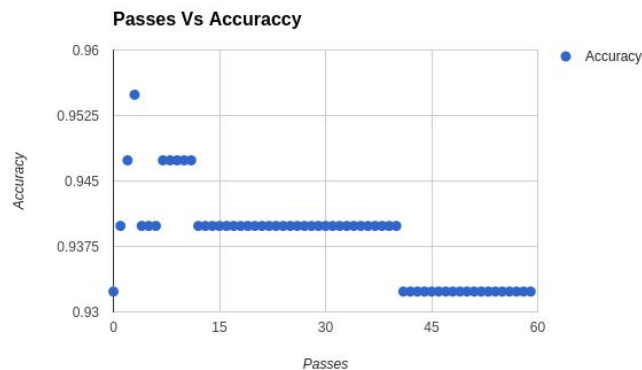
3) The best predictors of class are the word "hit" for baseball and the word "hockey" for hockey. These were found by finding the argmax and argmin, respectively for the weight vector after completion of training. This found the features with the highest (absolute value) weights and therefore they are the best indicators for each class.

4) To find the worst indicators of class i looked for features whose weights were the closest to 0. I found the absolute value of all the values and then took the 5 lowest values. The following words were the worst indicators: "everywhere" "blasted" "intermissions" "bloody""broad"