Robert Martinez
SID: 861238333
CS171

Problem Set 2 Report

Problem1

My program chose the quadratic model with a lambda of 1.833 which yielded an accuracy of 94.69%. I constructed a quadratic model by augmenting the feature space. This was done by taking every feature in the matrix and multiplying it by itself and every other feature. The linear model on the other hand was simply the given feature set. The lambda was found by using cross validation. The samples of the matrix were divided into a train and test set using and 80/20 train/test split. I used a list of lambda ranging from 0.01 to 1000 in a logarithmic scale. The both models were tested using the same lambda and the test accuracy was chosen. It was in this fashion that my algorithm arrived to its result as described above.