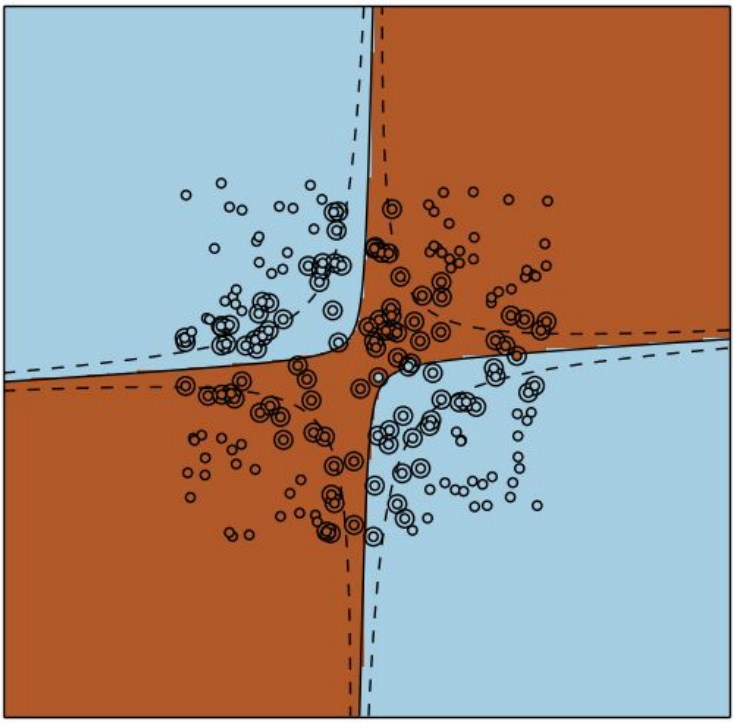
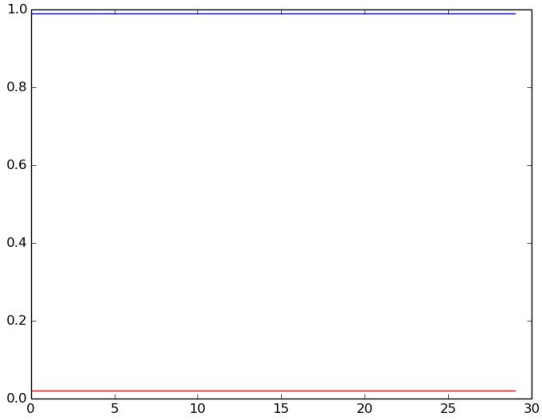
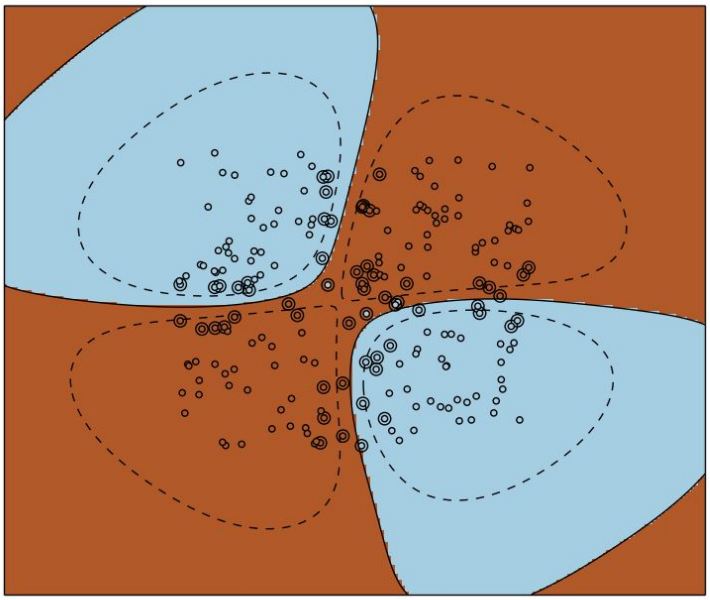
Problem2:

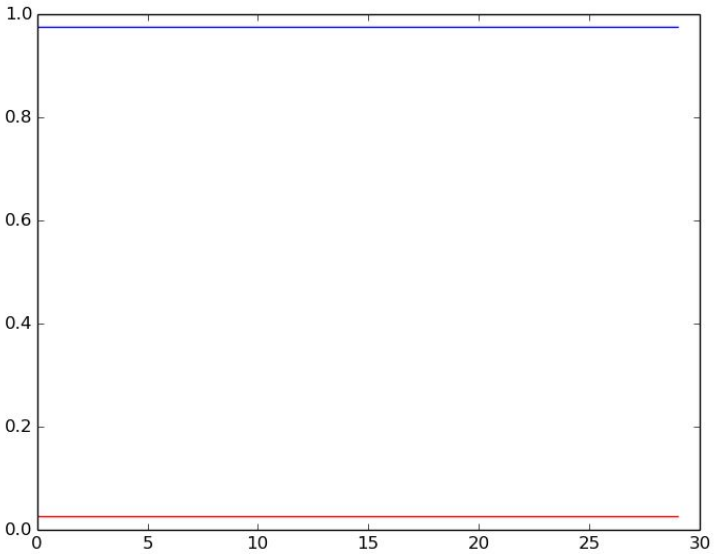
For an SVM using Polynomial kernel the optimal value of *C=2.5* and *d=6* where the 10-fold cross validation accuracies are maximum.The average cross validation accuracy is 75% with a standard deviation of 0.1





For an SVM using RBF kernel the optimal value of C=6.5 and γ = 6 where the 10-fold cross validation accuracies are maximum.The average value of cross validation accuracies is 97% with a standard deviation of 0.05





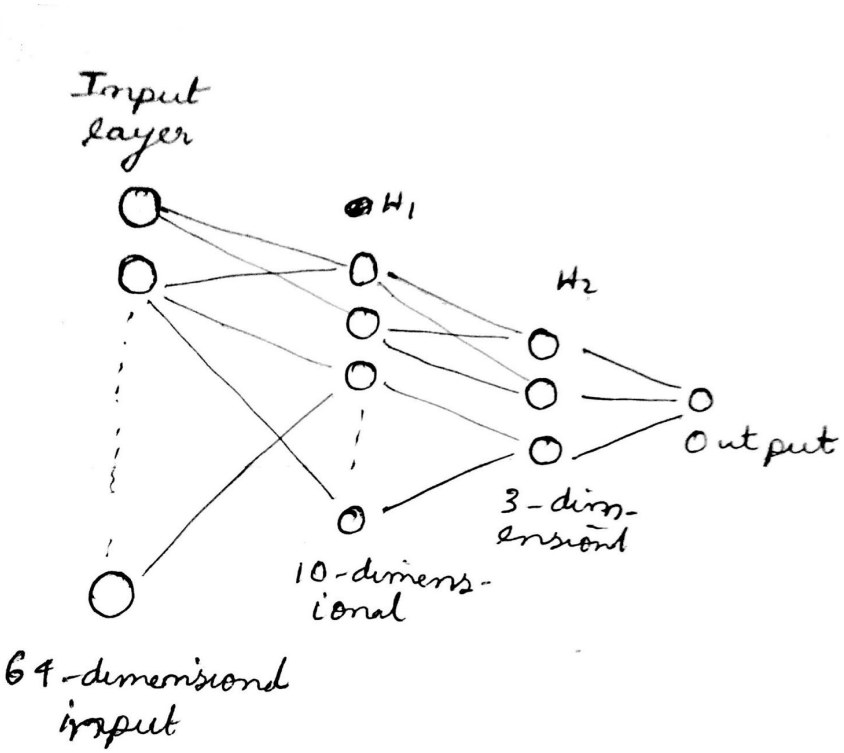
Problem3:

1.The test file consists of 93776 samples with -5000 as the class label and the remaining 5986 samples with class label 5000+

2.We take the mode over that attribute for discrete variables and replace it with the mean for continuous variables.

3.The average of the ten fold cross validation accuracy of the data is 96% with standard deviation 0.2.

Problem1:


Input layer
H_1
H_2
Output
3-dimensional
10-dimensional
64-dimensional input