PROBLEM

1. Read the dataset trainNaive.csv and its corresponding label file trainNaiveLabels.csv for the training data and its corresponding labels.

2. Generate your naïve Bayes' model using the training set

3. Determine the predictions on the test data given in testNaive.csv file

4. Generate the .csv format and place your test set predictions in it. A sample solution file 'naiveSolutionLabels.csv' is there to help you look at the format.

HINTS FOR CODE

NOTE: Be systematic when implementing your program. You can implement the following functions along with a main script in Matlab/python for the above steps

```
[probVecClass0 probVecClass1 prior0 prior1] =  learnProb(trainX,trainLabels)
%this function should take the data matrix trainX and the corresponding labels as input parameter and return the corresponding parameters for building your classifiers

predictedLabels = testMAP(X,probVectorClass0,
                                    probVectorClass1,prior0,prior1)
predictedLabels = testML(X,probVectorClass0,
                                    probVectorClass1,prior0,prior1)
%The above two functions are for making predictions using MAP or ML in naïve Bayes'
```

Once you have implemented the above functions write a main script that:

a. Reads training data
b. Finds the model parameters (relevant to the distribution to use)
c. Reads the test data and classifies the test data

Note: You can use matlab's helper functions like load, sum, mean, cov, plot etc. but NOT the Bernoulli distribution functions/naive Bayes' functions provided by it.

Lab Evaluation: naïve bayes classifier, you will implement the basic classifier which can train the given data and run atleast one new testing example

TO SUBMIT

Complete for all testing examples and submit textLabels.csv file along with code file

You can also use python to generate naïve bayes classifier but you cannot use built-in function of this classifier.