Homework assingments

1.
We assume that a data set which is divided into two classes X and Y. Given some kernel function Φ SVM tries to find a vector ω and a constant b_0 such that $\omega^T\Phi(x) + b_0 > 0$ for all $x \in X$ and $\omega^T\Phi(y) + b_0 < 0$ for all $y \in Y$. How this 2-class machine can be used to solve a M-class problem?

There are several approaches. Try to find a couple of them.

2.
Pick a real text data set and divide it to two parts. Build a Naive Bayes classifier and teach it using the first half of the data set. Apply the classifier to the other hald and construct a confusion matrix.