Support vector machines for face recognition:

Face recognition is a learning problem that has received a lot of attention. Support Vector Machines (SVM) are very popular in the machine learning community as a technique for tackling high-dimensional problems. Please implement the SVM algorithm by yourself. The experimental dataset can be found at "http://www.cl.cam.ac.uk/research/dtg/attarchive/facedatabase.html".

The required steps:
1) Implement the linear SVM. You can use library (e.g. MATLAB "quadprog" function, or other quadratic programming solvers downloaded from internet) to solve the quadratic programming problem. For the rest implementation, you need write your own code.

2) Face recognition is a multi-class classification problem. You can use either one vs rest or one vs one strategy.

3) Please use the five-fold cross validation and report the average accuracy value.

4) Please implement the polynomial kernel SVM (with multi-class and five-fold cross validation).

5) Hand in a simple report to summarize your implementations and results.

6) Send everything together via Blackboard.