Homework #1

1. Using conventional C, write a program which attains the product of 2 matrices. Your program should:
? Prompt the user for the size of each matrix
? Employ error checking to ensure that the matrices can be multiplied
? Have the user enter in the matrix elements (either from screen input or from an input file)
? Perform the matrix multiplication and output the final answer

The elegance and compactness of your code logic will count towards your final grade.

2. Using C++, create a "matrix" class that should be designed as follows:

? must be able to hold a variable number of members, ex) 3x3 matrix, or 2x6 matrix
? must be able to set values with a method, i.e. you can't simply set the values directly if they're held in an array
? must be able to multiply one matrix by another (hint: create an operator)
? must be able to add one matrix to another (hint: create an operator)
? must be able to test whether or not these operations can be completed (a 3x3 cannot be multiplied by a 4x6 for example)
? must print an error message if an illegal operation is attempted

You are required to hand in:

? printouts of your source codes
? screen captures of your output, proving the functionality of your codes
? A 1-2 page TYPEWRITTEN summary (not including source code) describing the behavior of your computer code (for Part 1), and the behavior of your classes and the program you built with your classes (for Part 2).

You may be asked to demonstrate your code for the TA's.

Due date: September 14, 2001, BEFORE class.