Object Oriented Programming LAB – BSDSF24

(Both Morning and Afternoon)

Lab 02 –11-02-2023

use notepad++ and developer command prompt for the following tasks

Task 01 (10 marks)

You are provided with the code of solution of 1st lab and code discussed in class sessions so far. Using the concepts learned though the above-mentioned code, you need to solve the following tasks. Show working of each task to TA after its completion, as you may need to mingle the code of main logic to demonstrate the working of various functionalities.

1. Create a class named Matrix33 for manipulating square matrix of order 3 (3 rows and 3 columns). You may use CPP style array or conventional style array to store data related to the matrix33 objects. The data members (may only be the two-dimensional array) should be protected in the class. Keep the name of data member simple like **m**. Show this to TA.
2. Create the getters/setters for the elements of the matrix.
   a. double getElement(int row, int col)
   b. void setElement(int row, int col, double val)
   Show this to TA along with their working in main.
3. Create a member function to output (display or print) a Matrix33 object. Show this to TA along with their working in main.
4. Create a setter member function that receives an array as parameter and update the Matrix33 object through it. Show this to TA along with their working in main.
5. Create appropriate constructor to construct a proper Matrix33 object. Show this to TA along with their working in main.
6. Create a single parameter constructor to construct a proper Matrix33 object to populate all nine elements with that parameter. Show this to TA along with their working in main.
7. Create a default (zero parameters) constructor to construct a proper Matrix33 object to populate all nine elements with value 0. Show this to TA along with their working in main.
8. Create a member function named multiply that receives a number as parameter and return a Matrix33 object which is scalar multiplication of Matrix33 and number. Show this to TA along with their working in main.
9. Create a member function that receives no parameters and return the determinant. Show this to TA along with their working in main.
10. Create a member function that receives a Matrix33 object as parameter and return true if parameter and the caller object are same matrices, otherwise return false. Show this to TA along with their working in main.

If time allows, you must practice the other concepts you learned in the class sessions, like addition of matrix objects and operator overloading, etc.

Thank you for your **patience**