OOP-CS252 -Programming Test

1	Write a C++ program to create a class called DATE. Accept two valid dates in the form of dd/mm/yyyy. Implement the following operations by overloading the operator + & -. After every operation display the results by overloading the operator << . i) no_of_days=d1-d2, where d1 and d2 are DATE objects, d1>=d2, no_of_days is an integer. ii) d2=d1+no_of_days, where d1 is DATE object and no_of_days is an integer
2	Create a class called MATRIX using two-dimensional array of integers. Implement the following operations by overloading the operator == which checks the compatibility of two matrices to be added and subtracted. Perform the addition and subtraction by overloading the + and – operators respectively. Display the results by overloading the operator <<. If (m1== m2) then m3 = m1+m2 and m4 = m1- m2 else display error.
3	Write a program in C++ to create a class called STRING and implement the following operations. Display the results after every operation by overloading the operator <<. i. STRING s1 = "NIT" ii. STRING s2 = " GOA" iii. STIRNG s3 = s1 + s2; (Use copy constructor)
4	Write a program in C++ to create a class called STACK using an array of integers and to implement the following operations by overloading the operators + and - : i. s1=s1 + element; where s1 is an object of the class STACK and element is an integer to be pushed on to top of the stack. ii. s1=s1-- ; where s1 is an object of the class STACK and -- operator pops off the top element. Handle the STACK Empty and STACK Full conditions. Also display the contents of the stack after each operation, by overloading the operator <<.
5	Write a program in C++ to create a class called OCTAL, which has the characteristics of an octal number. Implement the following operations by writing an appropriate constructor and an overloaded operator +. i. OCTAL h = x ; where x is an integer ii. int y = h + k ; where h is an OCTAL object and k is an integer. Display the OCTAL result by overloading the operator <<. Also display the values of h and y.

Instructions:

1. **The programs should be readable and well indented.**
2. **The programs should compile on a standard C++ compiler.**
3. **If it is found that the program has been copied from any source, there will be a penalty. No communication will be made with respect to this with the students.**
4. **If any two students programs are found same, then both will be awarded penalty.**