306- OOP & DS

Programs for practice

S.No.	Programs
1	Write a C++ Program to display Names, Roll No., and Marks of 3 students who have appeared in the examination. Declare the class of name, Roll No. and Marks. Create an array of class objects. Read and display the contents of the array.
2	Write a C++ program to declare Struct. Initialize and display contents of member variables.
3	Write a C++ program to declare a class. Declare pointer to class. Initialize and display the contents of the class member.
4	Given that an EMPLOYEE class contains following members: data members: Employee number, Employee name, Basic, DA, IT, Net Salary and print data members.
5	Write a C++ program to read the data of N employee and compute Net salary of each employee (DA=52% of Basic and Income Tax (IT) =30% of the gross salary).
6	Write a C++ program to use scope resolution operator. Display the various values of the same variables declared at different scope levels.
7	Write a C++ program to create multilevel inheritance. (Hint: Classes A1, A2, A3)
8	Write a Program using class to process Shopping List for a Departmental Store. The list include details such as the Code No and Price of each item and perform the operations like Adding, Deleting Items to the list and Printing the Total value of a Order.
9	Write a C++ program to use pointer for both base and derived classes and call the member function. Use Virtual keyword.
10	Write a Program which creates & uses array of object of a class.(for eg. implementing the list of Managers of a Company having details such as Name, Age, etc..).
11	Write a Program to find Maximum out of Two Numbers using friend function. Note: Here one number is a member of one class and the other number is member of some other class.
12	Write a Program to swap private data members of classes named as class_1, class_2 using friend function.
13	Write a Program to design a class complex to represent complex numbers. The complex class should use an external function (use it as a friend function) to add two complex numbers. The function should return an object of type complex representing the sum of two complex numbers.
14	Write a Program using copy constructor to copy data of an object to another object.

15	Write a Program to design a class to represent a matrix. The class should have the functionality to insert and retrieve the elements of the matrix.
16	Write a program to design a class representing complex numbers and having the functionality of performing addition & multiplication of two complex numbers using operator overloading.
17	Write a Program to overload operators like *, <<, >> using friend function. The following overloaded operators should work for a class vector.
18	Write a program for developing a matrix class which can handle integer matrices of different dimensions. Also overload the operator for addition, multiplication & comparison of matrices.
19.	Write a program in C++ to highlight the difference between overloaded assignment operator and copy constructor.
20	Write a Program illustrating how the constructors are implemented and the order in which they are called when the classes are inherited. Use three classes named alpha, beta, gamma such that alpha, beta are base class and gamma is derived class inheriting alpha & beta.
21	Write a program to design a class representing the information regarding digital library (books, tape: book & tape should be separate classes having the base class as media). The class should have the functionality for adding new item, issuing, deposit etc. the program should use the runtime polymorphism.
22	Write a program showing implementation of stack class having the functionality of push, pop operations.
23	Write program to implement a queue class with required operations/ functions.