

Assignments-II

1. Define polar class where each object represents a point in polar coordinates (angle and radius). Include static data member which keeps tracking the number of active objects of the class.
2. Define STUDENT class with data members rollno, name, marks of subjects, total marks, and grade. Overload >> for reading the STUDENT details, Overload << for displaying the STUDENT details, include a friend function generate_results (STUDENT [], int n); which takes an array of STUDENT objects corresponding to n students and generates total marks and grade for each of the student. Please display the results of all students using overloaded << operator.
3. Define a class named Employee with data members empno, name, & salary and appropriate member functions for setting and reading the data, constructors and destructor. Create an array of 5 Employee objects, populate it with data by overloading >> operator
4. Define a complex class, define default constructor, parameterized constructors, copy constructor, destructor. Overload +, -, unary -, ++ (prefix, postfix), =, comma (,), ->, << and >> operators.
5. Define string class with dynamic memory allocation for string. Define default constructor, parameterized constructors, copy constructor, destructor, Overload +, [], =, <<, >> operators. Observe the behavior of shallow copying and deep copying.
6. Write a program to demonstrate the situation where it is necessary to write the code for copy constructor.