

ASSIGNMENT NO: 04 (Polymorphism)

Problem Statement: Define a class Complex consisting following:

Data members:

- a. real
- b. imaginary part

Member Functions:

- a. One default constructor
- b. Function setComplex () to set the value of real and imaginary part.
- c. Function printComplex() to display

and

Four overloaded operator member functions

- i. Operator+ to add two complex numbers.
- ii. Operator * to multiply two complex numbers.
- iii. Operator – to subtract two complex numbers using friend function.
- iv. Operator / to divide two complex numbers using friend function..

Objectives:

- 1. To learn to create classes in C++
- 2. To learn constructor , function and operator overloading in C++
- 3. To learn friend function in C++

Theory:

Explain following concepts

- o Operator Overloading (Unary operator & Binary Operator)
- o Friend Function

Algorithm / Class Diagram / Implementation:

Write algorithm here.

Platform: 64 –bit Open source Linux

Input: Any 2 complex numbers: $(6+4i, 3+2i)$

Output: addition $(9+8i)$ and subtraction $(3+2i)$ of 2 complex numbers

Conclusion: Hence, learned to create classes, friend function and performed operator overloading in C++ successfully.

FAQs: write answers

- 1) What is inline function?
- 2) Which operator links class to a member?
- 3) What is default access specifier in C++?