**/\*Implement a class Complex which represents the Complex Number data type. Implement the following operations:**

**1. Constructor (including a default constructor which creates the complex number 0+0i).**

**2. Overloaded operator+ to add two complex numbers.**

**3. Overloaded operator\* to multiply two complex numbers.**

**4. Overloaded << and >> to print and read Complex Numbers.\*/**

#include <iostream>

using namespace std;

class complex **//class name complex is declared**

{

float realp,imagp;

public:

complex() **//default constructor**

{

realp=0;

imagp=0;

}

complex operator+(complex &); **//for addition of two complex nos**

complex operator\*(complex &); **//for multiplication of two complex nos**

complex(float,float); **//parameterized constructor**

friend istream &operator>>(istream &,complex &);

friend ostream &operator<<(ostream &,complex &);

};

complex::complex(float x,float y) **//parameterized constructor definition**

{

realp=x;

imagp=y;

}

**//function to accept values of real and image parts of complex no**

istream &operator>>(istream &din,complex &c)

{

cout<<"Enter real part of complex number 2: ";

din>>c.realp;

cout<<"\nEnter imaginary part of complex number 2: ";

din>>c.imagp;return din;

}

**//functions to display complex nos**

ostream &operator<<(ostream &dout , complex &c)

{

dout<<c.realp<<" + "<<c.imagp<<"i";

dout<<endl;

return dout;

}

**//function to add two complex nos**

complex complex::operator+(complex &c)

{

complex temp;

temp.realp=realp + c.realp;

temp.imagp=imagp + c.imagp;

return temp;

}

**//function to multiply two complex nos**

complex complex::operator\*(complex &c)

{

complex mul;

mul.realp=(realp\*c.realp) - ( imagp\*c.imagp);

mul.imagp=(imagp\*c.realp) + (realp\*c.imagp);

return mul;

}

int main()

{

**//Complex no 1**

complex c1(1.2,2.2);

cout<<"Complex no 1 is:"<<c1;

**//complex no 2 & 3**

complex c2,c3;

cout<<"Enter complex no 2:\n";

cin>>c2;

cout<<"Complex number 1 is :";

cout<<c1;

cout<<"Complex number 2 is :";

cout<<c2;

cout<<"Complex number 3 is :";

cout<<c3;

cout<<"\nAddition of two complex numbers is: ";

c3=c1+c2;

cout<<c3;

cout<<"\nMultiplication of two complex number is: ";

c3=c1\*c2;

cout<<c3;

**//display value of c3**

return 0;

}

