**Program:**

#include<iostream>

using namespace std;

class Complex{

    private:

    double real,imag;

    public:

    Complex(){

        real=0;

        imag=0;

    }

    Complex(double r, double i){

        real=r;

        imag=i;

    }

    Complex operator+(Complex &c2) {

        return Complex(real+c2.real,imag+c2.imag);

    }

     Complex operator-(Complex &c2) {

        return Complex(real-c2.real,imag-c2.imag);

    }

     Complex operator\*(Complex &c2) {

        return Complex(real\*c2.real-imag\*c2.imag,real\*c2.real+imag\*c2.imag);

    }

     Complex operator/(Complex &c2) {

        double denominator=c2.real\*c2.real+c2.imag\*c2.imag;

        if(denominator==0){

            throw runtime\_error("Division by zero complex number!");

        }

        return Complex((real\*c2.real+imag\*c2.imag)/denominator,(real\*c2.real-imag\*c2.imag)/denominator);

    }

    friend ostream &operator<<(ostream &out, const Complex &c){

        out<<c.real;

        if(c.imag>=0) out<<"+"<<c.imag<<"i";

        else out<<"-"<<-c.imag<<"i";

        return out;

    }

    friend istream &operator>>(istream &in,Complex &c){

        cout<<"Enter real part:";

        in>>c.real;

        cout<<"Enter imaginary part:";

        in>>c.imag;

        return in;

    }

};

int main(){

    Complex c1,c2;

    cout<<"Enter first complex number:\n";

    cin>>c1;

    cout<<"Enter second complex number:\n";

    cin>>c2;

    cout<<"\nResults:\n";

    cout<<"c1 + c2 = "<<(c1+c2)<<endl;

    cout<<"c1 - c2 = "<<(c1-c2)<<endl;

    cout<<"c1 \* c2 = "<<(c1\*c2)<<endl;

    cout<<"c1 / c2 = "<<(c1/c2)<<endl;

    return 0;

}

**OUTPUT:**

PS C:\Users\btm9d\Desktop\College\CPP> g++ Ass-2B.cpp

PS C:\Users\btm9d\Desktop\College\CPP> ./a.exe

Enter first complex number:

Enter real part:5

Enter imaginary part:3

Enter second complex number:

Enter real part:6

Enter imaginary part:2

Results:

c1 + c2 = 11+5i

c1 - c2 = -1+1i

c1 \* c2 = 24+36i

c1 / c2 = 0.9+0.6i

PS C:\Users\btm9d\Desktop\College\CPP> ./a.exe

Enter first complex number:

Enter real part:8

Enter imaginary part:7

Enter second complex number:

Enter real part:4

Enter imaginary part:1

Results:

c1 + c2 = 12+8i

c1 - c2 = 4+6i

c1 \* c2 = 25+39i

c1 / c2 = 2.29412+1.47059i

PS C:\Users\btm9d\Desktop\College\CPP>