**Assignment 3(Complex numbers).**

#include <iostream>

using namespace std;

class complex{

public:

int real,img;

void accept(){

cout<<endl<<"Enter real number:";

cin>>real;

cout<<endl<<"Enter imaginary number:";

cin>>img;}

void display(){

cout<<endl<<"Complex number is:"<<real<<"+"<<img<<"i";}

complex operator +(complex a){

complex sum;

sum.real=real+a.real;

sum.img=img+a.img;

return sum; }

complex operator -(complex a){

complex sum;

sum.real=real-a.real;

sum.img=img-a.img;

return sum;}

friend ostream &operator <<(ostream &output,complex \*a);

friend istream &operator <<(istream &input,complex \*a);

};

ostream &operator <<(ostream &output,complex a){

output<<endl<<"By extracting <<: "<<a.real<<"+"<<a.img<<"i";

return output;}

istream &operator >>(istream &input,complex &a){

cout<<endl<<"Enter complex number:";

input>>a.real>>a.img;

return input;}

int main(){

complex num1,num2,num3,num4;

num1.accept();

num2.accept();

num3=num1+num2;

cout<<"Sum of two complex numbers is:";

num3.display();

num3=num1-num2;

cout<<endl<<"difference of two complex numbers is:";

num3.display();

cout<<num1;

cin>>num4;

cout<<num4;

return 0;

}

**Output:**

Enter real number:44

Enter imaginary number:44

Enter real number:22

Enter imaginary number:22

Sum of two complex numbers is:

Complex number is:66+66i

difference of two complex numbers is:

Complex number is:22+22i

By extracting <<: 44+44i

Enter complex number:45 67

By extracting <<: 45+67i