```
#include<iostream>
using namespace std;

class complex{
	double real;
	double img;
	public:
		complex();
			friend istream & operator>>(istream&,complex&);
			friend ostream & operator<<(ostream&,const complex&);
			complex operator +(complex);
			complex operator *(complex);

};

complex::complex(){
	real=0;
	img=0;
}
istream & operator>>(istream&,complex&i){
	cin>>i.real>>i.img;
	return cin;
}
ostream & operator<<(ostream&,const complex&d){
	cout<<d.real<<"+"<<d.img<<"i"<<endl;
	return cout;
}
complex complex::operator +(complex c1){
	complex temp;
	temp.real=real+c1.real;
	temp.img=img+c1.img;
```

```
        return temp;
}
complex complex::operator *(complex c2){
        complex tmp;
        tmp.real=(real*c2.real)-(img*c2.img);
        tmp.img=(real*c2.img)+(img*c2.real);
        return tmp;
}
int main()
{
        complex c1,c2,c3,c4,c5;
        int flag=1;
        char b,c,d;
        int x,y;
        while(flag==1)
        {
                cout<<"Enter Real & Imaginary part of the complex number 1: \n";
                cin>>c1;
                cout<<"Enter Real & Imaginary part of the complex no 2: \n";
                cin>>c2;
                int f=1;
                while(f==1)
                {
                        cout<<"Complex Number1: "<<c1<<endl;
                        cout<<"Complex Number2: "<<c2<<endl;
                        cout<<"******MENU******"<<endl;
                        cout<<"1.Addition of complex numbers"<<endl;
                        cout<<"2.Multipication of complex numbers"<<endl;
                        cout<<"3.Print \n";
                        int a;
                        cout<<"enter your choice";
```

```
cin>>a;
if(a==1)
{
	c3=c1+c2;
	cout<<"Addition: "<<c3<<endl;
	cout<<"do you wnat to perform another operation(y/n): \n";
	cin>>b;
	if(b=='y'||b=='Y')
	{
		f=1;

	}
	else
	{
		cout<<"Thankyou for using this program!! \n";
		flag=0;
		f=0;
	}
}
else if(a==2)
{
	c4=c1*c2;
	cout<<"Multiplication"<<c4<<endl;
	cout<<"Do you wnat to perform another operation?(y/n): \n ";
	cin>>c;
	if(c=='y'||c=='Y'){
		f==1;
	}
	else
	{
		cout<<"Thankyou for using our program!! \n";
```

```
                                        flag=0;
                                        f=0;
                                }
                        }
                        else
                        {
        cout<<"Enter Real & Imaginary part of the complex number: \n";
                                cin>>c5;
                                cout<<c5;
                                cout<<"Do you wnat to perform another operation?(y/n): \n ";
                                cin>>d;
                                if(d=='y'||d=='Y'){
                                        f==1;
                                }
                                else
                                {
                                        cout<<"Thankyou for using our program!! \n";
                                        flag=0;
                                        f=0;
                                }

                        }
                }
        }
        return 0;
}
```

OUTPUT

Enter Real & Imaginary part of the complex number 1:

5 4

Enter Real & Imaginary part of the complex no 2:

6 4

Complex Number1: 5+4i

Complex Number2: 6+4i

******MENU******

1.Addition of complex numbers

2.Multipication of complex numbers

3.Print

enter your choice1

Addition: 11+8i

do you wnat to perform another operation(y/n):

y

enter your choice2

Multiplication14+44i

Do you wnat to perform another operation?(y/n):

y

enter your choice3

Complex Number1: 0+0i

Complex Number2: 0+0i

Do you wnat to perform another operation?(y/n):

n

Thankyou for using our programs!!