/*

**Title:-** 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.

**Roll No:-**

**Class:-SE Computer**

**Sub:-**OOPL & CGL

**Date:-**

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## Program-

```
#include<iostream>
using namespace std;
class complex
{
        float x;
        float y;
public:
      complex()
        {
                x=0;
                y=0;
        }

        complex operator+(complex);
        complex operator*(complex);
        friend istream  &operator  >>(istream &input,complex &t)
        {
                cout<<"Enter the real part";
                input>>t.x;
                cout<<"Enter the imaginary part";
                input>>t.y;
        }
        friend ostream  &operator  <<(ostream &output,complex &t)
        {
                        output<<t.x<<"+"<<t.y<<"i\n";
        }
```

```
};

complex complex::operator+(complex c)
{
        complex temp;
        temp.x=x+c.x;
        temp.y=y+c.y;
        return(temp);
}


complex complex::operator*(complex c)
{
        complex temp2;
        temp2.x=(x*c.x)-(y*c.y);
        temp2.y=(y*c.x)+(x*c.y);
        return (temp2);
}


int main()
{
        complex c1,c2,c3,c4;
      cout<<"Default constructor value=\n";
      cout<<c1;
        cout<<"\nEnter the 1st number\n";
        cin>>c1;
        cout<<"\nEnter the 2nd number\n";
        cin>>c2;
        c3=c1+c2;
        c4=c1*c2;
        cout<<"\nThe first number is ";
        cout<<c1;
        cout<<"\nThe second number is ";
        cout<<c2;
        cout<<"\nThe addition is ";
        cout<<c3;
        cout<<"\nThe multiplication is ";
        cout<<c4;
        return 0;
}
```

**/*Output:-**

```
student@student-OptiPlex-3010:~$ ./a.out

Default constructor value=
0+0i

Enter the 1st number
Enter the real part 2
Enter the imaginary par t4

Enter the 2nd number
Enter the real part 4
Enter the imaginary part 8

The first number is 2+4i

The second number is 4+8i

The addition is 6+12i

The multiplication is -24+32i
student@student-OptiPlex-3010:~$ */
```