Operator Overloading FAQ

Can a member function have the object of same class?

Yes.

Why operator is returning the object of same class?

It is returning the result object. If 2 Complex numbers are added then it is returning their sum.

c3=c1+c2. Assignment operators should be overloaded?

No need. C++ provides assignment on object.

Assignment operator must be overloaded if object are having memory in heap.

”this” keyword.

When a operator function for + is defined like

Complex operator+(Complex c2)

Then it is called like

c3=c1+c2;

Here function is called upon c1 and c2 is passed as parameter.

Members of c2 can be accessed using c2.real etc.

Members of c1 can be accessed using this->real etc.

Complex operator+(Complex &x) using reference.

Using reference (Complex &x) is better, it will not create a new object.

If call by value is used (Complex x) then object x will be created and its constructor is called. We may have to define copy constructor also.

How operator+(.....) works as +?

It is a syntax given in C++. Compiler will understands operator+ means +.

Can we define friend function for +?

Yes. Its prototype should look like this

Complex operator+(Complex &c1,Complex &c2);

c3=c1+c2; both objects will be passed as parameter.

:: for friend function.

We don’t use scope resolution for friend functions. They are global functions.

Friend function

if are using two or more objects in the parameter. Then we have to make use of friend.

when both are of same class then we have 2 options.

1. make operator as a member of class

2. make it as friend

when 2 arguments are from different classes then there is only 1 option that is friend function