Assignment 7

Operator Overloading

Introduction:

Complex number set is a super set to real number set.

Complex numbers are used very often in science and Engineering. The concept is rather simple. Complex numbers are consisted of two part, an integer number as their real part and another integer number as their imaginary part.

So any complex number is shown as X +iY, where X and Y are integers and “i” is the imaginary symbol. Technically “i” is the square root of -1, and since it is not real you had not heard about it.

The following examples are all imaginary numbers: 3+5i, 6-2i, 7+i, -2+4i If you pay attention all integers are also imaginary, for example the number 4 can be shown as 4+0i, so even 4 can be considered an imaginary number.

If you want more information about imaginary numbers, please visit http://www.purplemath.com/modules/complex.htm and <http://www.purplemath.com/modules/complex2.htm>

Requirements: You are required to create a Complex class that has only two integers for real and imaginary part of the number.

You need to have constructor(s) and a destructor and access functions for both data members. (23 marks, each task 6 marks, destructor 5 marks )

As a practice for operator overloading, you need to implement the following operators =, ==, !=, +, -, ++, --, \*(Multiply) and /(divide), I would also like to see << and >> are also implemented as friend functions.

Each operator (7 marks)

Good Luck