Assignment – 01

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Subject: OOP Lab

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Problem Statement:

Implement a class Complex which represent the Complex Number data type. Implement the following:

1. Constructor (Including Default constructor which create 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.

Source File:

Source file (.cpp) is attached with this assignment file.

Test Cases and Output:

Consider a as first complex number and b as second complex numbers.

a = (1 + 2i)

b = (2 + 0i)

Test Case	Expected Output	Program Output
Addition	(3 + 2i)	(3 + 2i)
Subtraction	(-1 + 2i)	(-1 + 2i)
Multiplication	(2 + 4i)	(2 + 4i)
Division	(0.5 + 1i)	(0.5 + 1i)

Input:

```
Enter the values of a and b for first complex number :
1 2

Enter the values of a and b for second complex number :
2 0


Choose Operation :
```

Addition:

```
Choose Operation :
0 to Exit
1 for addition
2 for substraction
3 for multiplication
4 for division
Enter Here : 1
Addition is : 3 + i(2)
```

Subtraction:

```
Choose Operation :
0 to Exit
1 for addition
2 for substraction
3 for multiplication
4 for division
Enter Here : 2
Subtraction is : -1 + i(2)
```

Multiplication:

```
Choose Operation :
0 to Exit
1 for addition
2 for substraction
3 for multiplication
4 for division
Enter Here : 3
Multiplication is : 2 + i(4)
```

Division:

```
Choose Operation :
0 to Exit
1 for addition
2 for substraction
3 for multiplication
4 for division
Enter Here : 4
Division is : 0.5 + i(1)
```