Sheet 6

Operator Overloading in C++

1. Implement **Counter** class that explained in lecture.

Overload increment operator (++)

Perform the following options with the Operator function:

- return value
- Nameless Temporary Objects
- Overloaded ++ operator in both prefix and postfix.

2. Write a C++ program to define a **Complex** class representing complex numbers.

Overload the +, -, and * operators to perform addition, subtraction, and multiplication of complex numbers.

Hint: Multiply two complex numbers using the formula:

$$(a + bi) * (c + di) = (ac - bd) + (ad + bc)i$$

3. Create a class **Box** that stores the dimensions (length, width, and height) of a box.

Overload the == operator to compare if two boxes are identical,

and the < operator to compare the volumes of two boxes.

Hint: the volume of the box is (length*width* height)