**Operator overloading and friend function**

* Define a class Complex with appropriate instance variables and member functions. Define following operators in the class:

a. +

* -
* \*

d. ==

* Write a C++ program to overload unary operators that is increment and decrement.
* Write a C++ program to add two complex numbers using operator overloaded by a friend function.
* Create a class Time which contains:
* Hours
* Minutes
* Seconds

Write a C++ program using operator overloading for the following:

1. = = : To check whether two Times are the same or not.

* >> : To accept the time.
* << : To display the time. Output -
* Consider following class Numbers

*class Numbers*

*{*

*int x,y,z; public:*

*// methods*

*};*

Overload the operator unary minus (-) to negate the numbers.

* Create a class CString to represent a string.

a) Overload the + operator to concatenate two strings.

b) == to compare 2 strings.

* Define a C++ class fraction

*class fraction*

*{*

*long numerator; long denominator;*

*Public:*

*fraction (long n=0, long d=0);*

*}*

Overload the following operators as member or friend:

* Unary ++ (pre and post both)
* Overload as friend functions: operators << and >>. Output-



* Consider a class Matrix

*Class Matrix*

*{*

*int a[3][3]; Public:*

*//methods;*

*};*

Overload the - (Unary) should negate the numbers stored in the object. Output -



* Consider the following class mystring

*Class mystring*

*{*

*char str [100]; Public:*

*// methods*

*};*

Overload operator “!” to reverse the case of each alphabet in the string (Uppercase to Lowercase and vice versa).

* *Class Matrix*

*{*

*int a[3][3]; Public:*

*//methods;*

*};*

Let m1 and m2 are two matrices. Find out m3=m1+m2 (use operator overloading).

Output -

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ente r | Hat r tx Etenent | | ( 3 | X | 3) | |
| 4 5 6 | 1 2 3 7 8 9 | |  |  |  | |
| Ente r | Hat r tx Etenent | | ( 3 | X | 3) | : |
| 1 2 3 | 4 5 6 7 | 8 9 | | | | |
| First | Matrix |  | | | | |
| 4 | 5 | 6 | | | | |
|  | 2 | 3 | | | | |
| 7 | 8 | 9 | | | | |
| Second | Mat r tx |  | | | | |
| 1 | 2 | 3 | | | | |
| 4 | 5 | 6 | | | | |
| 7 | 8 | 9 | | | | |