**Lab 9: Operator Overloading II**

**Overloading Unary Operators**

**Task 1**

Design a class Complex for handling Complex numbers and include the following:

\_ real: a double

\_ imaginary: a double

The class has the following member functions.

a. A constructor initializing the number with default parameters.

b. Getters and Setters of the class data members as given below

\_ void setReal(double r)

\_ double getReal()const

\_ void setImaginary(double i)

\_ double getImaginary() const

d. Overload unary ! operator which returns true if the real and the imaginary parts are zero, otherwise return false.

**bool opeator!()const**

rite main function to test all the implemented functionality.

**Task 2**

Write a class Matrix. This class has three private data members

|  |  |
| --- | --- |
|  | rows: An integer that holds the numbers of rows for matrix. |
| columns: An integer that holds the numbers of columns for matrix. |
|  |
| matrix: An integer pointer to pointer that points to 2D array (rows x columns). |
|  |

The class has the following member functions.

|  |  |
| --- | --- |
| Matrix (int r, int c) | Constructs a new Matrix object to represent the given matrix |
| d++ | Overload Post-increment Operator |
| ++d | Overload Pre-increment Operator |
| d-- | Overload Post-decrement Operator |
| --d | Overload Pre-decrement Operator |
| void setRows(int r) | It sets row of a matrix. |
| int getRows()const | Returns row of matrix. |
| void setCol(int c) | It sets column of a matrix. |
| int getCol()const | Returns column of matrix. |