

## Object Oriented Programing (BCS-9C)

Lab Quiz # 02

Time 45 Minutes

Marks 10

### Submission Instructions:

Rename your .cpp file as Name\_RollNo\_Section and submit on Google classroom be on time.

### Question 1:

Implement a class called Quadratic. The class will have three data members:

- int a; // First part of quadratic equation
- int b; // Second part of the quadratic equation
- int c //Third part of the quadratic equation.

//It'll form a number as  $ax^2+bx+c$

You have to implement **default constructor**, **overloaded constructor**, **copy constructor**, **destructor** and **overload the operators** +, \* , << , >>, !=, = as described below:

- "+" Plus operator to Add 2 quadratic objects
- "\*" Multiply a constant with Quadratic object
- ">>" instream operator to Input a quadratic object
- "<<" ostream operator to Output a quadratic object
- "!=" In-equality operator to check inequality of two quadratic objects
- "=" Assignment operator

After implementing the above functions you should be able to run the following main():

```
#include <iostream>
```

```
int main() {
```

```
    Quadratic quad1;
```

```
    Quadratic quad2(2, -3, 1);
```

```

Quadratic quad3 = quad2;

std::cout << "Enter coefficients for a quadratic equation (ax^2 + bx + c): ";

std::cin >> quad1;

std::cout << "Quad1: " << quad1 << std::endl;

std::cout << "Quad2: " << quad2 << std::endl;

std::cout << "Quad3: " << quad3 << std::endl;

Quadratic sum = quad1 + quad2;

std::cout << "Sum of Quad1 and Quad2: " << sum << std::endl;

int constant = 3;

Quadratic multiplied = quad1 * constant;

std::cout << "Quad1 * " << constant << ": " << multiplied << std::endl;

bool notEqual = quad1 != quad2;

std::cout << "Quad1 and Quad2 are " << (notEqual ? "not equal." : "equal.") << std::endl;

quad3 = quad1;

std::cout << "Quad3 after assignment: " << quad3 << std::endl;

return 0;

}

```

**GOOD LUCK**