

CSE 1122 Structured and Object-Oriented Programming Sessional

Week 12 (Lab 9)

Date 21.04.2024

Topic: Operator Overloading, Friend function and Friend Class

Lab Exercise:

1. Overload the + for concatenating the two strings. For e.g “Object” + “oriented” = Objectoriented
2. Write a friend function for adding the two complex numbers, using a single class.

Homework:

1. Overload the operator + for adding the timings (hr, min, sec) of two clocks.
2. Create a class **BankAccount** representing a bank account with private members **balance**, **accountNumber**, and **customerName**. Implement a friend function **transferFunds()** that takes two **BankAccount** objects as arguments and transfers funds from one account to another. Also, make another class **BankManager** a friend of **BankAccount** class, which can access the **accountNumber** and **customerName** of any **BankAccount** object. Test your program by creating multiple bank accounts, transferring funds between them, and displaying account information using the **BankManager** class.
3. Write down a class named **Vector** and provide appropriate constructor and necessary functions to make the given main function executable.

```
class Vector{
    private:
        double x,y,z;
};

int main(){
    Vector v1,v2, result,mult;
    cin >> v1; // overload the input operator
    cin >> v2;
    result = v1 - v2; //perform subtraction of v1 and v2
    result.display();
    result = v1*v2; //perform dot product of v1 and v2
    result.display();
}
```

```
    mult = 5*v1; //perform scalar multiplication of v1
    mult.display();

    result = -v2; //perform negation of v2
    result.display();
    //display() function should output vector v(a,b,c) as:
    // ai+bj+ck

    return 0;
}
```