

LAB 4

CLASS AND OBJECT (CONTD.)

In this lab, students shall write and run different programs related to ***this pointer, constant object and constant member function, static data member and static member function, friend function and classes*** in C++ programming language. Following programs with different task number shall be covered in this lab:

Task #1:

Write a program to find the sum of two objects of type 'complex' with data members – real and imaginary. The function should take object as argument and return the object. Use the concept of **this** pointer to return object. Also show the use of **this** pointer wherever possible.

Task #2:

Write a program in CPP to illustrate the relationship between **constant object, constant member function, non-constant object, non-constant member function**.

Task #3:

Write a program to show the invocation order of constructor and destructor. Create a class with data members- ObjectNumber and Count and it should display the message "Object n created" and "Object n goes out of the scope" whenever constructor or destructor is invoked. Also use the concept of **static data member and static member function**.

Task #4:

Perform task#1 using **friend function**. (Note: **this** pointer cannot be used in this case)

Task #5:

Write a program that sums up two integer data members of two different classes using **friend function**.

Task #6:

Write a program that sums up two integer data members of two different classes using **friend class**. (Hint: A friend class can access all the private and protected members of the class to which it is friendly)