

## OOP Lab Exam-2022

### Set-1

1. Write a program in C++ that creates a class parcel containing private member variable weight (of the parcel), protected variable shipping\_cost. Write a constructor that initializes these variables. Write a member function with name Call\_shipping() to calculate the shipping cost according to formula Rs. 10/kg, which will be stored in the variable shipping\_cost. Create a class called Box, which is publicly inheriting Package class. It should have private member variable height,width and depth. Write a constructor to initialize these variables. Override Call\_shipping() function defined in class Parcel and add Rs. 30 to shipping\_cost variable if volume of the box exceeds 3 units. Also write a member function to print total shipping cost. Write a main function that creates Box class object, assigns weight, height, width, depth. Print shipping cost of the object. Do not use friend functions in this program.
2. Create a class Int. Overload four integer arithmetic operators (+, -, \*, and /) so that they operate on objects of type Int. If the result of any such arithmetic operation exceeds the normal range of ints (in a 32-bit environment)— from 2,147,483,648 to -2,147,483,647—have the operator print a warning and terminate the program. Such a data type might be useful where mistakes caused by arithmetic overflow are unacceptable.

### Set-2

1. Write a program to count the number of persons inside a bank, by increasing count whenever a person enters a bank, using an increment (++) operator overloading function, and decrease the count whenever a person leaves the bank using a decrement (--) operator overloading function. It would also display the number of persons inside the bank.
2. Write a program to explain virtual function by creating a base class Account which has virtual function deposit () and withdrawal(). Two classes Saving and Current Account derived from Account and they have deposit() and withdrawal(). Deposit is to add the balance into your account and Withdrawal is to get the withdrawal amount. Write a member function to get the deposit and withdrawal amount and to update the balance information for current and savings etc. Write a member function to display the balance information for respective account.