CSE 122 : Object Oriented Programming Lab
Lab - 4

Intake 52
Section - 3

January 29, 2024

Task 1

- Define a class named **Square** which has private data member length as integer type.
- A member function **set_length()** is used to set the length of an object.
- To calculate the area of a non member function **area()** which takes an Square object as parameter and returns the area of the object.
- Now create an object of Square class, then set the length of the object and show the area as output.

Task 2

- Define a class named **Box1** which has two private data members, one is area as double type another is color as string type.
- Define another class named **Box2** which has same private data members as **Box1**.
- Create a parameterized constructor is used to set the data members of the two classes.
- Now define a nonmember function named Compare_Box () which takes two objects as parameters [one object of Box1 and another object of Box2] and display "Box1" if the area of object of **Box1** is bigger and "Box2" otherwise.

Task 3

- Create two classes, **X** and **Y**, with private member variables **data1** and **data2**, respectively. Both classes should have public member functions to set and get the values of their respective data members.
- Implement a **friend** function named **sum** that takes an object of class X and an object of class Y as parameters. The sum function should calculate and return **the sum of data1 from object X and data2 from object Y**.
- Implement another friend function named **exchange** that takes references to an object of class X and an object of class Y as parameters. The **exchange** function should swap the values of data1 from object X and data2 from object Y using a temporary variable.
- In the main function, create objects of classes **X** and **Y** named x1 and y1, respectively. Set the values of data1 and data2 to any desired integer values using the member functions.
- Display the result of calling the sum function, passing x1 and y1 as arguments.

- Call the **exchange** function, passing x1 and y1 as arguments.
- Display the updated values of data1 and data2 by calling the respective getter functions of x1 and y1.