Programming Laboratory-I

Assignment No-2

(Constructors, Destructors and Static members)

Due date-12/9/2022

1. Create a class Film (Name, Language, Type and Duration). Create a default constructor to initialize Language and Duration as 'Hindi' and 3 (hrs.). Insert rest of the details through function. Display all the details. (Use destructor as well)

2. Create a class Customer (Cid, Cname, Age, City). Make all the members as private. Use parameterized constructor to assign values to it. Display all Customer information. (Add at least 5 records)

3. With help of copy constructor calculate
   a. Area of Circle
   b. Area of Triangle
   c. Area of Square

4. Create class SportsTeam (Name, NoOfPlayers, Average_age). Make a Static data member as ObjectCount. Create 3 Objects of SportsTeam, Insert and Display all information of 3 SportsTeam and Display count of object.

5. Calculate area of Box (Length, Breadth, Height). Consider Height as static member (Need to initialize). Use static member function getHeight() which will return value of Height. Create function Area() which will calculate area of Box. Use parameterized constructor to initialize data (insert data from keyboard). Create two objects.

6. Define a class String that could work as a user-defined string type. Include constructors that will enable us to create an uninitialized string

   String sl; //

string with length 0 and also to initialize an object with a string constant at the time of creation like

String s2("Well done!");

Include a function that adds two strings to make a third string. Note that the Statement

s2= s1;

will be perfectly reasonable expression to copy one string to another.

Write a complete program to test your class to see that it does the following tasks:

(a) Creates uninitialized string objects.

(b) Creates objects with string constants.

(c) Concatenates two strings properly.

(d) Displays a desired string object.

7. Write a function power to raise a number m to a power n. The function takes a double value for m and int value for n and returns the result correctly. Use a default value of 2 for n to make the function to calculate squares when this argument is omitted. Write a function that performs the operation as above but asks an int value for m. Both the functions should have the same name. Write a main that calls both the functions. Use the concept of function overloading.

8. Write a program to calculate result of student based on his/her marks. Display the result. Use concept of function overloading. (Result of Internal exam, Mid sem exam, End sem exam and Final consolidated result) function name should be result.