

OOPS C++ Programs

Assignment-6(Dated 19/03/2024)

1. Define a class student with the following specification

Private members of class student

admno integer

sname 20 character

eng, math, science float

total float

ctotal() ---> a function to calculate eng + math + science with float return type.

Public member function of class student

Takedata() ---> Function to accept values for admno, sname, eng, science and invoke ctotal() to calculate total.

Showdata() ---> Function to display all the data members on the screen.

2. Define a class batsman with the following specifications:

Private members:

bcode 4 digits code number

bname 20 characters

innings, notout, runs integer type

batavg it is calculated according to the formula

$$\text{batavg} = \text{runs} / (\text{innings} - \text{notout})$$

calcavg() ---> Function to compute batavg

Public members:

readdata() ---> Function to accept value from bcode, name, innings, notout and invoke the function calcavg()

displaydata()----> Function to display the data members on the screen.

3. Write a C++ program to implement a class called Circle that has private member variables for radius. Include member functions to calculate the circle's area and circumference
4. Write a C++ program to create a class called Rectangle that has private member variables for length and width. Implement member functions to calculate the rectangle's area and perimeter.
5. Write a C++ program to create a class called Person that has private member variables for name, age and country. Implement member functions to set and get the values of these variables
6. Write a C++ program to create a class called Car that has private member variables for company, model, and year. Implement member functions to get and set these variables.
7. Write a C++ program to implement a class called BankAccount that has private member variables for account number and balance. Include member functions to deposit and withdraw money from the account.
8. Write a C++ program to create a class called Triangle that has private member variables for the lengths of its three sides. Implement member functions to determine if the triangle is equilateral, isosceles, or scalene.
9. Write a C++ program to implement a class called Employee that has private member variables for name, employee ID, and salary. Include

member functions to calculate and set salary based on employee performance.

10. Write a C++ program to implement a class called Date that has private member variables for day, month, and year. Include member functions to set and get these variables, as well as to validate if the date is valid.

11. Write a c++ program to demonstrate single inheritance.

12. Write the definition for a class called Distance that has data member feet as integer and inches as float. The class has the following member functions:

void set(int, float) to give value to object

void disp() to display distance in feet and inches

Distance add(Distance) to sum two distances & return distance

1. Write the definitions for each of the above member functions.

2. Write main function to create three Distance objects. Set the value in two objects and

call add() to calculate sum and assign it in third object. Display all distances