

C++, JAVA, Python: Lab-1 Assignment

Problem 1: Design a class named Data with day, month and year (all of type int) as its data members declared in private section of the class. Define the following constructor for the class:

- (i) Zero argument constructor that initialize the day, month and year data members to 12, 3 and 1993 respectively.
- (ii) Parameterized constructor which takes three arguments, all of which are declared with default values as 12, 10 and 2000 respectively the day, month and year data members with corresponding arguments.
- (iv) Copy constructor.

Problem 2: Create a class named Student with the following specifications

Private Members:

- admno : of type integer to represent admission number
- Name : of type character to represent name (max 20 characters)
- marksEng : of type float to represent marks in the subject of English
- marKsMaths : of type float to represent marks in the subject of mathematics marksSci of type float to represent marks in the subject of Science total of type float to represent total marks.

Public Members:

- readData() A function to accept the data for admNo, name, marksEng, MarksMaths, marksSci.
- compute() A function to compute sum of marks in English, Maths and Science It also invokes compute function to Calculate total marks.
- ShowData() A function that display all the data member on the computer screen.


Problem 3: Create a class named Student with the following specifications:

Private Members:

- rollno of type integer
- Name of type character (max 20 characters)
- marks[4] array of type float
- Grade of type float

Public Members:

- Calculate() function to calculate grade with return type void
- readData() A function to accept the data for rollno, name, marks[4], and invokes the function calculate() to compute grade
- displayData() A function that display rollno, name, and grade on the computer screen.
- sortName(): perform sorting operation base on student name.

 Problem 4: Given a list of numbers and a number k, return whether any two numbers from the list add up to k. For example, given [10, 15, 3, 7] and k of 17, return true since 10 + 7 is 17.