

Lab – 4

1. A) Create a Cuboid class with 3 public instance variables length, breadth and height of type double, and a method volume (). Create 2 objects with different values and print the volume. (Read input From Console)

B) Create a Cuboid class with 3 private instance variables length, breadth and height of type double, and a public method volume of return type double. Add 3 setter methods with return type boolean (the instance variable is set when the argument is +ve) for each of the 3 instance members. Also add 3 getter methods of return type is double, and Use toString() method to print the details in the given format.

Length : 10.0 m

Breadth : 10.0 m

Height: 10.0 m

Volume : 100.0 cu.m

Access each of these methods through an object of Cuboid from the main () method of Demo class. Create array of Objects, Set the instance variables by obtaining input from console. (Use Scanner Class).

2. Define a class Student with the following attributes under private access and methods under public access.

a. Name b) ID c) gender d) department

Define setter methods

i. Such that name not have any special characters and Digits.

ii. ID must be a positive 10-digit value

iii. Gender must be either M/F

iv. Department must be either CE/CSE/ECE/EEE/MECH/IT/MBA

v. Override toString() method

vi. In the main method define two Student objects and prints the details of the students in the following format.

ID: 2050100501

Name: ABC

Gender: M

Department: CSE

(Hint: Read the data from console)

3. Design a class named Account that contains:
 - A private int data field named id for the account (default 0).
 - A private double data field named balance for the account (default 0.0).
 - A no-arg constructor that creates a default account.
 - A constructor that creates an account with the specified id and initial balance.
 - The Accessor and mutator methods for id, balance.
 - Mutators return Boolean (If all the fields are +ve, return true, else false)
 - A method named withdraws that withdraws a specified amount from the account.
 - A method named deposit that deposits a specified amount to the account.
 - A method to print the details of Account.