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# Java Programming Laboratory

## LAB-III

Date:- 23/01/2024

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- A. Write a program in java to create a class called Box with three data members (length, width, height) and a method volume(). Also, implement the application class Demo, where an object of the box class is created with user-entered dimensions and prints the volume.

***Input:*** length,width and height.

***Output:*** Volume

- B. Write a program to overload subtract method with various parameters in a class in Java. Write the driver class to use the different subtract methods using objects.

***Input:*** Mention various subtract method having different parameters.

***Output:*** Subtract method will display the result accordingly

- C. Write a java program that will overload the area() method and display the area of a circle, triangle, and square as per user choice and user-entered dimensions.

***Input:*** Mention dimensions like radius, base, height, side

***Output:*** Display area of circle

Display area of triangle

Display area of square

- D. Write a program in Java to define a class Rectangle having data members: length & breadth, and three methods called read(), calculate() and display() to read the values of length & breadth, calculate the area and perimeter of the rectangle and display the result respectively. Finally, create two objects of the Rectangle class, ask and input the respective dimensions (length,breadth) from the user, and then calculate and display their respective areas and perimeters.

***Input:*** Mention length and breadth

***Output:*** Display Area of Rectangle and Perimeter of rectangle.

- E. Write a program in java using roll, name, and cgpa as data members to input the details of **n** students, followed by displaying their values. Next, display the name of the student having the lowest cgpa.

***Input:*** Enter Roll No, Name and cgpa of **n** number of students.

***Output:*** Display the details of **n** number of students. Also display the name of student with lowest cgpa

- F. Write a program in java using constructor overloading concept to calculate the area of a rectangle having data members as length and breadth. Use default constructor to initialize the value of the data member to zero and parameterized constructor to initialize the value of data member according to the user input.

***Input:*** Mention the value of length and breadth

***Output:*** Display the area of the rectangle accordingly.