OOPS / INHERITANCE CLASSES AND OBJECTS

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1. Create a class box that uses a parameterized costructor to initialize the dimensions of a box . The dimensions of a box are width , height, depts. The class should have a method that can return the volume of the box. Create an object of the Box class and test the functionalities.

#source code:

publicclassBox { private double width;

private double height; private double depth;

// Parameterized constructor

public Box(double width, double height, double depth) { this.width = width; this.height = height;

this.depth = depth;

}

// Method to calculate volume public double getVolume() { return width \* height \* depth;

}

public static void main(String[] args) {

// Create a Box object

Box myBox = new Box(10, 20, 15);

// Test the functionality

System.out.println("Volume of the box is: " + myBox.getVolume());

}

}

output:

The volume of the box is : 3000.0

1. Create a new class called Calculator with the following methods:
   1. A static method called powerInt(int numl,int num2)

This method should return numl to the power num2

* 1. A static method called powerDouble(double numl,int num2). This method should return numl to the power num?.
  2. Invoke both the methods and test the functionalities.

Hint: Use Math.pow(double,double) to calculate the power. #source code:

public class Calculator {

// Power method for integers

public static int powerInt(int num1, int num2) { return (int) Math.pow(num1, num2);

}

// Power method for doubles

public static double powerDouble(double num1, int num2) { return Math.pow(num1, num2);

}

public static void main(String[] args) {

// Test the methods

System.out.println("2^3 (int) = " + Calculator.powerInt(2, 3));

System.out.println("2.5^3 (double) = " + Calculator.powerDouble(2.5, 3));

}

}

Output:

2^3 (int) = 8

2.5^3 (double) = 15.625