Classes and Objects

1
Create a class Box that uses a parameterized method to initialize the dimensions of a box.(dimensions are width, height, depth of double type). The class should have a method that can return volume. Obtain an object and print the corresponding volume in main() function.

Topics Covered: Classes and Objects, Constructor

2
Create a new class called "Calculator" which contains the following:

1. A static method called powerInt(int num1,int num2) that accepts two integers and returns num1 to the power of num2 (num1 power num2).
2. A static method called powerDouble(double num1,int num2) that accepts one double and one integer and returns num1 to the power of num2 (num1 power num2).
3. Call your method from another class without instantiating the class (i.e. call it like Calculator.powerInt(12,10) since your methods are defined to be static)

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

Topics Covered: Classes and Objects, Constructor, static

3
Design a class that can be used by a health care professional to keep track of a patient's vital statistics. Here's what the class should do:

1. Construct a class called Patient
2. Store a String name for the patient
3. Store weight and height for patient as doubles
4. Construct a new patient using these values
5. Write a method called BMI which returns the patient's BMI as a double. BMI can be calculated as BMI = (Weight in Pounds / (Height in inches x Height in inches)) x 703
6. Next, construct a class called "Patients" and create a main method. Create a Patient object and assign some height and weight to that object. Display the BMI of that patient.

Topics Covered: Classes and Objects, Constructor, static