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.

2. Create a new class called “Calculator” which contains the following:

A static method called powerInt(int num1,int num2) that accepts two integers and returns num1 to the power of num2 (num1 power num2).

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).

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.

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:

Construct a class called Patient
Store a String name for the patient
Store weight and height for patient as doubles
Construct a new patient using these values

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

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.

=Inheritance=

1 Create a class named ‘Animal’ which includes methods like eat() and sleep(). Create a child class of Animal named ‘Bird’ and override the parent class methods. Add a new method named fly(). Create an instance of Animal class and invoke the eat and sleep methods using this object.Create an instance of Bird class and invoke the eat, sleep and fly methods using this object.

2 Create a class called Person with a member variable name. Save it in a file called Person.java Create a class called Employee who will inherit the Person class.The other data members of the employee class are annual salary (double), the year the employee started to work, and the national insurance number which is a String.Save this in a file called Employee.java Your class should have a reasonable number of constructors and accessor methods. Write another class called TestEmployee, containing a main method to fully test your class definition.