Homework 3

For this homework assignment, you will need to submit 4 .java files: Dog.java, Kennel.java, MyMethods.java, and TestMethods.java.

DEFINING CLASSES

1. Write a class called Dog that contains instance data that represents the dog's name as a String and weight in pounds, as a double. In addition, the class should have the following methods:
   - A default constructor, which initializes name to "dog" and weight to 0
   - A getter for each instance data
   - A setter for each instance data
   - A method toKgs() that computes and returns the weight of the dog in kilograms (1lb = 0.453592 kg).
   - A toString method that returns a one-line description of the dog including name and weight.

2. Write an application Kennel that instantiates two Dog objects and updates the names and weights with data from the user. The program will display the information about each object (Hint: toString() method) as well as the average weight in kilograms.

WRITING METHODS (Each problem below is a method in the class MyMethods.java)

1. Implement a method named surface that accepts 3 integer parameters named width, length, and height as user input. It will return the total surface area (6 sides) of the rectangular box it represents. The formula for Surface Area is 2(length * width) + 2(length * height) + 2(height * width)

   Sample input and output:
   Enter width: 2
   Enter length: 3
   Enter height: 4
   The total surface area is: 52

2. Implement a method named avgFaceValues that accepts 2 Die objects. Use the Die class developed in class. The method returns the average faceValue of the two die objects. For example, if die1 has face value 4 and die2 has face value 5, the method should return 4.5.

3. To test methods above, **write an application, TestMethods,** that will instantiate an instance (object) of the class MyMethods to invoke the methods below. The application should have at least one invocation of each method.