Assignment 3

Create the following Java classes and/or interfaces

- Vehicle
- Truck
- Button
- Keyboard
- Computer

Vehicle Class: 14 marks

Create a class named Vehicle

1) Create 3 instance variables with unique data types and unique accessibility levels to represent the following attributes of a vehicle
   -color
   -number of doors
   -gas powered
   ***
   Accessibility level choice is unimportant; however, the data type choice is.
   Use camelCase when creating the instance variables
   ***
   (3 marks)
2) Create 4 constructors with parameters + the default constructor **(5 marks)**
3) Create the necessary getters and setters for this class **(1 mark)**
4) *Override* (not Overload) the equals() method so it evaluates two Vehicle objects and returns true if and only if (iff) the two Vehicle objects are equal is value **(2 marks)**
5) *Override* the toString method to summarize all instance variables of the class **(1 mark)**
6) Create a method named isEcoFriendly. It has no parameters. It determines whether the Vehicle is two-doored and is not gas powered. **(2 marks)**

Truck Class: 21 marks

Create a class named Truck that is based on the Vehicle class

1) Create two additional instance variables with unique non-private accessibility levels and data types to represent the following attributes of a truck
   -seats
   -trunk space
   (2 marks)
2) Create 8 constructors **(8 marks)**
   a) The default constructor
   b) 4 constructors that mirror the constructors of the Vehicle class
   c) A constructor with 3 instance variables of Vehicle & seats instance variable of Truck
   d) A constructor with 3 instance variables of Vehicle & trunk space instance variable of Truck
   e) A constructor with 3 instance variables of Vehicle & both instance variables of Truck
3) *Override* (not Overload) the equals() method so it evaluates two Truck objects and returns true if and only if (iff) the two Truck objects are equal is value. **(3 marks) ****
4) *Override* the toString method to summarize all instance variables of the class **(3 marks) ****
   **Please note, there are 5 instance variables to evaluate and/or summarize **
5) *Override* the isEcoFriendly method. In addition to its original behavior, it also determines if the Truck has at most two seats and has no trunk space. **(5 marks)**

Button Interface: 5 marks

7) Create an interface named Button **(1 mark)**
8) Code two constant values **(2 marks)**
9) Code two methods **(2 marks)**
10) Be creative while coding. Unrelated or inapplicable entities will not count.
    a) E.G., do not code myMethod() or myValue

Keyboard Abstract Class: 9 marks

6) Create an abstract class named Keyboard **(1 mark)**
7) In the abstract class, code two (2) of the items below
   a) instance variables **(2 marks)**
   b) concrete methods **(2 marks)**
   c) abstract methods **(2 marks)**
   d) constructors **(2 marks)**
8) Be creative while coding. Unrelated or inapplicable entities will not count.
   a) E.G., do not code myMethod() or myValue

Computer Class: 6 marks

1) Create concrete class named Computer
2) Base this class on the abstract Keyboard class **(1 mark)**
3) This class is to implement the Button interface **(1 mark)**
    a) Complete the interface method bodies **(2 x 2 marks)**
4) Be creative while coding. Unrelated or inapplicable entities will not count.
    a) E.G., do not code myMethod() or myValue

Submission

Submit all the .java files individually on Blackboard.
Zipped and/or compressed files will result in a 5-mark deduction.