Object Oriented Programming-2 using Java

Assignment-1 Class # 1205_10979 MM – 20 Weightage – 9%

Note – This assignment contains 2 parts i.e. creating UML and Implementing Program. Both parts are compulsory. All labs/assignments are individual assignments unless specified by the instructor and must be completed individually by all students; please refer to the Academic Honesty document located at;- https://caps.sheridancollege.ca/student-guide/academic-policies-and-procedures.aspx

Submission guidelines:-

a. Copy/paste your UML Diagram and java code in word document and attach screenshot of execution of program from intellij terminal to same word document.
b. Generate Javadoc file for both classes and submit .html files for both programs.
c. Submit word document and Zip folder for Program you made.
d. This assignment requires 2 classes i.e. a Car class and a Tester class to demonstrate the use and accurate implementation of the Car class.
e. UML Diagram and java code should match with each other.
f. Both submissions are compulsory

Rubrics Question-1:-

I. **UML diagram : 6 Marks**
II. **Implementing points A to C (each point * 0.5): 1.5 Marks**
III. **Implementing points D to H (each point * 1): 5 Marks**
IV. **Test class to demonstrate the use and working of all methods and getting desired output: 3 Marks**

V. Execution screenshot and correct Output: 1.5 Marks

VI. Zip folder and Word Document Submission for program: 1.5 Mark

VII. Appropriate name for class / variable / method: 1.5 Mark

Question-1

Create UML diagram for following specifications given by the client, who is a Car dealer to you;-

A Car class is required with following fields;-

a) yearModel;- the yearModel field is an int that hold's car's year model.
b) make;- The make field references a String object that holds the make of the car.
c) speed;- The speed field is an int that hold's current speed of the car.

In addition to the fields, the Car class should have following constructors and methods.

d) Default Constructor;- A constructor which assigns -1 to yearModel field, 0 to speed and "nomake" to make field.
e) Parameterized Constrtuctor;- The constructor that accepts the car's yearModel and make as an arguments and assigns them to yearModel and make fields. The constructor should assign 0 to speed field.

f) Accessors;- accessor method for each variable, which returns the respective field value.

g) Accelerate;- accelerate() method, which adds 3 to speed value, everytime its called. Choose the appropriate return type for this method.

h) Brake;- brake() method, which subtracts 3 from speed everytime this method is called. Choose the appropriate return type for this method.

Part-2 Create class Car and implement all points from A to H specified above. Demonstrate the class in a program that creates a Car object, and then call the accelerate function 3 times, which should display current speed after each call. Then call the brake method 3 times, which should again display current speed of the car after each call to brake method.