

INSTRUCTION:

Design and implement a Java program for the following description of a *VehicleSystem*. You must apply *Strategy* Design Pattern.

You won a new contract to design a set of vehicles that include **StreetRacer**, **FormulaOne** and **AirCraft**. One of the common functionalities of the vehicles is their ability to move despite in different ways. For example, a StreetRacer and a FormulaOne move by driving, and an AirCraft moves by flying. The specific way a vehicle moves is changeable as time passes. For instance, an AirCraft can be flying at one moment and it can be driving on the runway before takeoff and after arriving at the runway.

1. Draw a UML class diagram to show your design for the *VehicleSystem*.
2. Implement your design in Java.
3. Create a test class (*VehicleSystem.java*) to test your implementation. The sample output should be as shown below.

Sample output:

```
I am a StreetRacer. Now I'm driving.  
I am a FormulaOne. Now I'm driving.  
I am an AirCraft. Now I'm flying.
```

4. Assume that a flying AirCraft arrives at the airport and drives on the runway before coming to a halt. Write the statements inside the main method to represent this. Compile and run.

Sample output:

```
I am an AirCraft. Now I'm flying.  
    I am arriving at the runway. Now I'm driving.
```