

Programming Languages 2

Lesson 3

Your task is to create a project, in which you provide the basics for a car seller database.

1. Create a new project in NetBeans the name of it should be CarsProject, the package name is carsproject.
2. Add a new class to the project. The name of it should be Car. A Car has the following properties: Brand (e.g. Toyota, Opel, Audi...), type (sedan, coupe, cabrio), registration year (2006, 2011 etc...) and color (a code representing the color the code is between 1 and 10).
3. Make all properties of the car private and generate getter and setter methods for them.
4. Create a constructor that lets the user to set all values of the Car at the time of instantiation.
5. Instantiate a new car object in the main class with the following properties: (Toyota, sedan, 2006, 3). Print out everything about this car. Try the following `System.out.println(c);` where c is the car object. What do you see in the output?
6. **Override** the **toString** method of the class so that it prints out the properties of the car in the following format: **"Brand, type, color (year)"**. E.g.: "Toyota, sedan, green (2006)". Note that in the output instead of the color code the name of the color has to be printed out. Use the following list to resolve the codes: 0 – black, 1 – red, 2 – green, 3 – blue, 4 – yellow, 5 – orange, 6 – gray, 7 – white, 8 – brown, 9 – purple, 10 – pink. Run the project again, and note the change.
7. **Overload** the **setColor** method so that it can set the color not only by color code, but by the name of the color as well. Note that when you compare two Strings, you have to use the **equals** method either of the first or the second String.
8. In the main method, after printing out the car, change the color of it to gray. Print out the car again.
9. Create a **private static array** to hold the list of the colors.
10. Modify the setColor, and the toString methods so that they use this new array.