**Section 7.3**

***Code:***

package vehicles;

public class Vehicle {

// Static variables

public static String MAKE = "Augur";

public static int numVehicles = 0;

// Instance variables

private String chassisNo;

private String model;

// Constructor

public Vehicle(String model) {

numVehicles++;

this.chassisNo = "ch" + numVehicles;

this.model = model;

System.out.println("Vehicle manufactured");

}

// Getters and Setters

public String getChassisNo() {

return chassisNo;

}

public void setChassisNo(String chassisNo) {

this.chassisNo = chassisNo;

}

public String getModel() {

return model;

}

public void setModel(String model) {

this.model = model;

}

// toString method

@Override

public String toString() {

return "The vehicle is manufactured by: " + MAKE + "\n" +

"The model type is: " + model + "\n" +

"The chassis number is: " + chassisNo + "\n" +

"The engine make is: " + Engine.getMake() + "\n" +

"The engine capacity is: " + Engine.getCapacity() + "cc";

}

// Nested static Engine class

public static class Engine {

private static final String MAKE = "Predicter";

private static final int CAPACITY = 1600;

public static String getMake() {

return MAKE;

}

public static int getCapacity() {

return CAPACITY;

       }

    }

}

***Code:***

package vehicles;

public class TestVehicle {

public static void main(String[] args) {

// Display the manufacturer

System.out.println("Manufacturer: " + Vehicle.MAKE);

// Display the number of vehicles manufactured

System.out.println("Number of vehicles manufactured: " + Vehicle.numVehicles);

// Create a Vehicle object

Vehicle vehicle1 = new Vehicle("Vision");

System.out.println(vehicle1);

// Create a second Vehicle object

Vehicle vehicle2 = new Vehicle("Edict");

System.out.println(vehicle2);

// Display the total number of vehicles manufactured

System.out.println("Number of vehicles manufactured: " + Vehicle.numVehicles);

// Modify the MAKE using vehicle2

vehicle2.MAKE = "Seer";

System.out.println(vehicle1);

System.out.println(vehicle2);

// Create an Engine object

Vehicle.Engine vehicle3 = new Vehicle.Engine("Fortune");

System.out.println("Vehicle number " + vehicle3.getChassisNo() + " is a " + vehicle3.getModel() + " model and has an engine capacity of " + Vehicle.Engine.getCapacity() + "cc");

}

}

