1. 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) {

// Increment static variable

numVehicles++;

// Set instance variables

this.chassisNo = "ch" + numVehicles;

this.model = model;

// Display message

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

}

// Getter and Setter for chassisNo

public String getChassisNo() {

return chassisNo;

}

public void setChassisNo(String chassisNo) {

this.chassisNo = chassisNo;

}

// Getter and Setter for model

public String getModel() {

return model;

}

public void setModel(String model) {

this.model = model;

}

// toString method

@Override

public String toString() {

return "Make: " + MAKE + "\nModel: " + model + "\nChassis Number: " + chassisNo;

}

}

public class TestVehicle {

public static void main(String[] args) {

// Using static variables

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

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

// Create instances of Vehicle

Vehicle vehicle1 = new Vehicle("Aero");

System.out.println("The chassis number is " + vehicle1.getChassisNo());

// Display the model and create another vehicle

System.out.println("Model of vehicle1: " + vehicle1.getModel());

Vehicle vehicle2 = new Vehicle("Edict");

System.out.println("Model of vehicle2: " + vehicle2.getModel());

// Display the toString() method output

System.out.println("\nDetails of vehicle1:");

System.out.println(vehicle1);

System.out.println("\nDetails of vehicle2:");

System.out.println(vehicle2);

// Display the total number of cars manufactured

System.out.println("\nTotal number of cars manufactured: " + Vehicle.numVehicles);

}

}

2. 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) {

// Increment static variable

numVehicles++;

// Set instance variables

this.chassisNo = "ch" + numVehicles;

this.model = model;

// Display message

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

}

// Getter and Setter for chassisNo

public String getChassisNo() {

return chassisNo;

}

public void setChassisNo(String chassisNo) {

this.chassisNo = chassisNo;

}

// Getter and Setter for model

public String getModel() {

return model;

}

public void setModel(String model) {

this.model = model;

}

// Static inner class Engine

public static class Engine {

private static final String MAKE = "Predicter";

private static final int CAPACITY = 1600;

// Static getters

public static String getMake() {

return MAKE;

}

public static int getCapacity() {

return CAPACITY;

}

}

// toString method

@Override

public String toString() {

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

"\nThe model type is " + model +

"\nThe chassis number is " + chassisNo +

"\nThe engine make is " + Engine.getMake() +

"\nThe engine capacity is " + Engine.getCapacity() + "cc";

}

}

3. package vehicles;

public class TestVehicle {

public static void main(String[] args) {

// Using static variables

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

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

// Create instances of Vehicle

Vehicle vehicle1 = new Vehicle("Aero");

Vehicle vehicle2 = new Vehicle("Edict");

// Modify MAKE using an instance

vehicle2.setMake("Seer");

// Display vehicle details

System.out.println("\nDetails of vehicle1:");

System.out.println(vehicle1);

System.out.println("\nDetails of vehicle2:");

System.out.println(vehicle2);

// Display the total number of cars manufactured

System.out.println("\nTotal number of cars manufactured: " + Vehicle.numVehicles);

// Create an Engine object

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

System.out.println("Vehicle number ch3 is a " + vehicle3.getModel() +

" model and has an engine capacity of " +

Vehicle.Engine.getCapacity() + "cc");

}

}