

```
//Author: Lizwi Truth
//Project: Vehicle Management System
//Date: 08 July 2025
```

```
package com.cars;
```

```
/**
```

```
 * This class represents a vehicle with attributes such as make, model, plate number, VIN, year, and millage.
```

```
 */
```

```
public class Car {
    // Attributes
```

```
    private String make;
    private String model;
    private String vin;
    private String plateNumber;
    private int year;
    private int millage;
```

```
    // Constructor
    public Car() {}
```

```
    // Getters and setters for the attributes
```

```
    public String getMake() {
        return make;
    }
```

```
    public void setMake(String make) {
        this.make = make;
    }
```

```
    public String getModel() {
        return model;
    }
```

```
    public void setModel(String model) {
        this.model = model;
    }
```

```
    public String getVin() {
        return vin;
    }
```

```
    public void setVin(String vin) {
        this.vin = vin;
    }
```

```
    public String getPlateNumber() {
        return plateNumber;
    }
```

```

    }

    public void setPlateNumber(String plateNumber) {
        this.plateNumber = plateNumber;
    }

    public int getYear() {
        return year;
    }

    public void setYear(int year) {
        this.year = year;
    }

    public int getMillage() {
        return millage;
    }

    public void setMillage(int millage) {
        this.millage = millage;
    }
}

//Author : Lizwi Truth Mhlaba.
//Project: Vehicle MAnagement System.
//Date: 08 July 2025
//Main.java

package com.cars;

import java.util.ArrayList;
import java.util.Collection;
import java.util.Scanner;

/**
 * This class represents the main application for managing vehicles.
 */

public class Main {

    public static void main(String[] args){
        //Create a new Scanner object to read input from the user.

        Scanner input = new Scanner(System.in);

        //Create a collection to store vehicle objects
        Collection<Car> cars = new ArrayList<Car>();

        //Display the welcome message and menu options
        System.out.println("Welcome to the Vehicle Management System!");
        System.out.println("(1) Capture vehicle details");
        System.out.println("(2) View vehicle report");
    }
}

```

```

System.out.println("(3) Exist application");

    //Read the user's menu option choice
int menuOption = input.nextInt();
System.out.println("Logged: " + menuOption);

    //Continue to display the menu and process user input until the user chooses to exit
while(menuOption !=3){

    if(menuOption == 1){
        //Create a new Car object to store the vehicle's details
        Car carObj = new Car();
        //Read the vehicle's details from the users
        int year;
        int millage;
        String model;
        String plateNum = "";
        String vinNum;

        System.out.println("Enter make");
        String make = input.next();

        System.out.println("Enter model");
        model = input.next();

        System.out.println("Enter vinNum");
        vinNum = input.next();

        //Validate the VIN number to ensure it is 17 characters long
        while(!(vinNum.length() == 17)){

            System.out.println("Enter vin and make sure its 17 characters long");
            vinNum = input.next();
        }

        //Ask the user to choose the license plate number format
        System.out.println("Please select a license plate number format: ");
        System.out.println("(1) Old format");

        int plateChoice = Integer.parseInt(input.next());

        // Read the license plate number if the user chose the old format
        if(plateChoice == 1){
            System.out.println("Enter plate number e.g FMT740MP");
            plateNum = input.next();
        }
        // Read the vehicle's millage and year

        System.out.println("Enter vehicle millage: ");
        millage = input.nextInt();

        System.out.println("Enter vehicle year: ");
        year = input.nextInt();
    }
}

```

```

// Set the vehicle's details in the Car object
carObj.setMake(make);
carObj.setModel(model);

carObj.setPlateNumber(plateNum);
carObj.setVin(vinNum);

carObj.setYear(year);
carObj.setMillage(millage);

// Add the Car object to the collection of vehicles
cars.add(carObj);
System.out.println("Vehicle details captured successfully!");

} else if (menuOption == 2) {

    if (cars.isEmpty()) {
        System.out.println("There are no vehicles captured");
    } else {
        // Display the vehicle report
        System.out.println("*****");
        System.out.println("VEHICLE REPORT");
        System.out.println("*****");

        for (Car carObject: cars) {
            System.out.println("MAKE: " + carObject.getMake());
            System.out.println("MODEL: " + carObject.getModel());
            System.out.println("VIN: " + carObject.getVin());
            System.out.println("Plate Number: " + carObject.getPlateNumber());
            System.out.println("Millage: " + carObject.getMillage());
            System.out.println("Year: " + carObject.getYear());
            System.out.println();
        }
    }
}

// Display the menu options again and read the user's next choice
System.out.println("Please select an option");
System.out.println("(1) Capture vehicle details");
System.out.println("(2) View vehicle report");
System.out.println("(3) Exist application");

menuOption = input.nextInt();
}

// Display a thank-you message when the user exits the application
System.out.println("Thanks for using the Vehicle Management System!");
}
}

```

```
Run Main x
C:\Program Files\Java\jdk-24\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.1.3\lib\idea_rt.jar=50328" -Dfile.encoding=UTF-8
Welcome to the Vehicle Management System!
(1) Capture vehicle details
(2) View vehicle report
(3) Exist application
1
Logged: 1
Enter make
MINIE COOPER
Enter model
COOPER SE
Enter vinNum
COOPER SE
Enter vin and make sure its 17 characters long
Enter vin and make sure its 17 characters long
WMW13GX04S2X18942
Please select a license plate number format:
(1) Old format
1
Enter plate number e.g FMT740MP
FMT740MP
Enter vehicle millage:
165320
Enter vehicle year:
2025
Vehicle details captured successfully!
```

```
Main.java x Car.java
Run Main x
Vehicle details captured successfully!
Please select an option
(1) Capture vehicle details
(2) View vehicle report
(3) Exist application
2
*****
VEHICLE REPORT
*****
MAKE: MINIE
MODEL: COOPER
VIN: WMW13GX04S2X18942
Plate Number: FMT740MP
Millage: 165320
Year: 2025

Please select an option
(1) Capture vehicle details
(2) View vehicle report
(3) Exist application
3
Thanks for using the Vehicle Management System!

Process finished with exit code 0
```