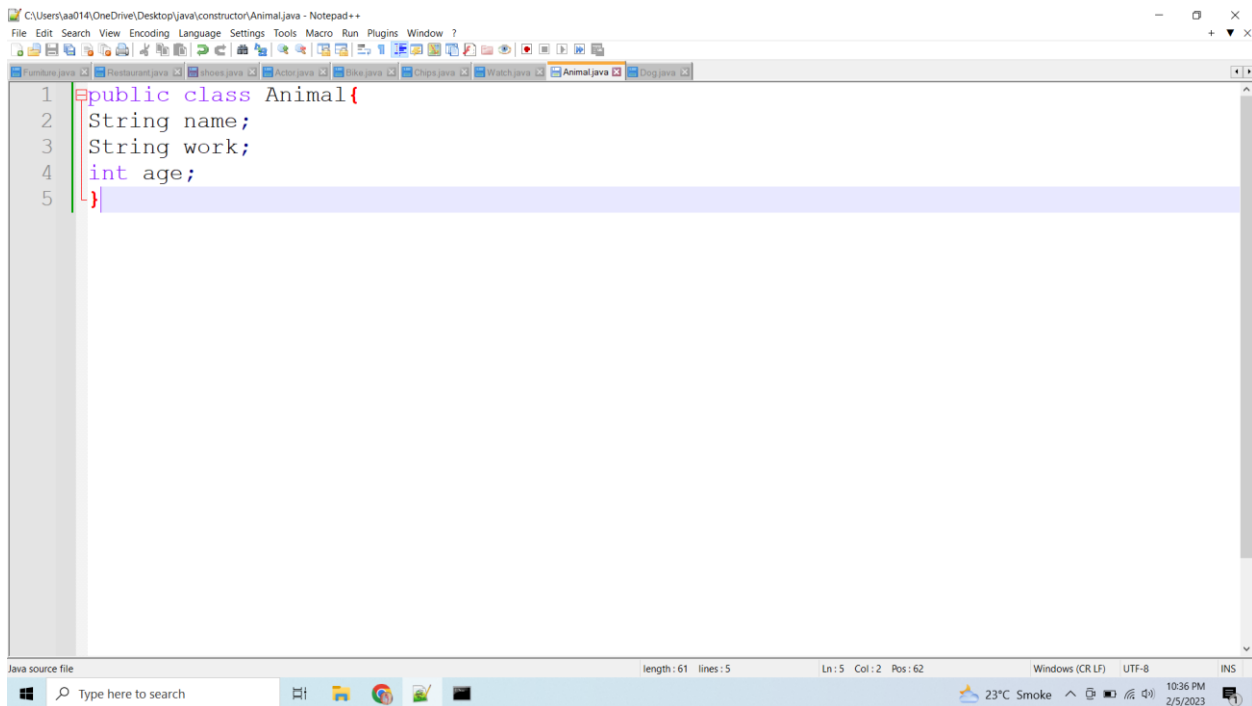


Parent Class Animal

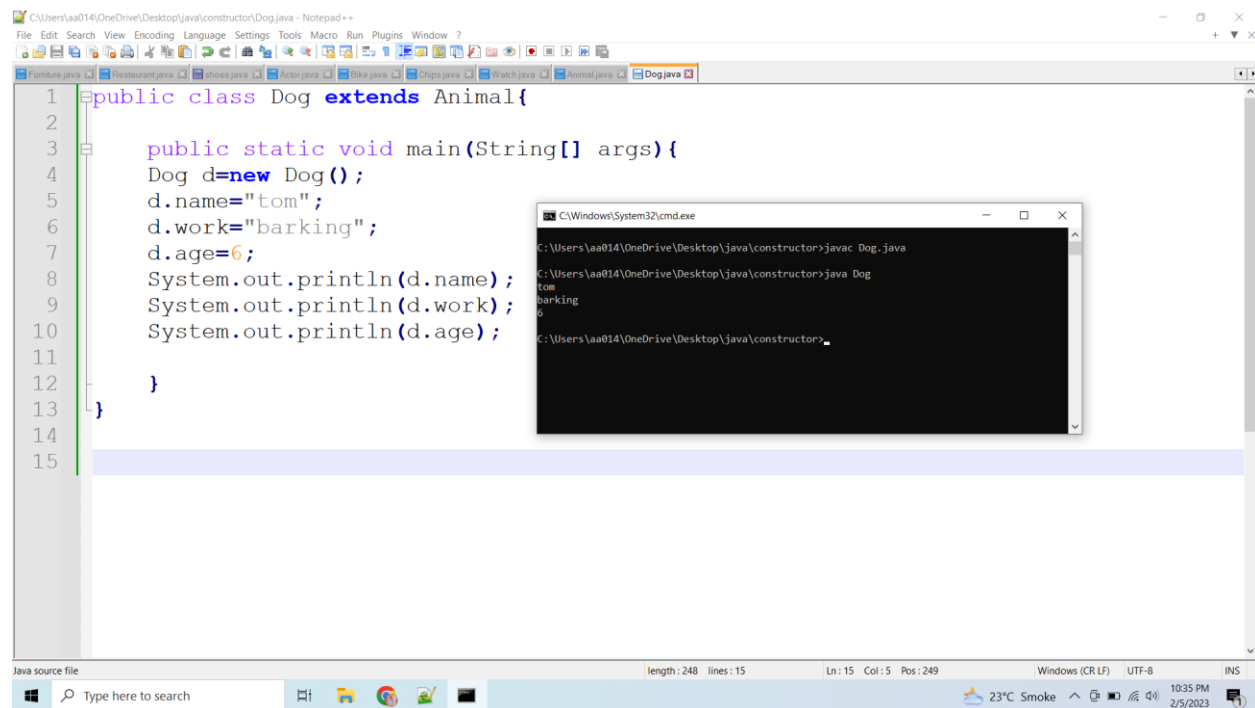


The screenshot shows a Notepad++ window with the file path `C:\Users\aa014\OneDrive\Desktop\java\constructor\Animal.java`. The code defines a `public class Animal` with three attributes: `String name`, `String work`, and `int age`. The code is as follows:

```
1 public class Animal{
2     String name;
3     String work;
4     int age;
5 }
```

The status bar at the bottom indicates the file is a Java source file, with a length of 61 and 5 lines. The cursor is at line 5, column 2, position 62. The system tray shows a temperature of 23°C, smoke, and the date 2/5/2023.

Dog Class Extends Animal Class(Single Level Inheritance)



The screenshot shows a Notepad++ window with the file path `C:\Users\aa014\OneDrive\Desktop\java\constructor\Dog.java`. The code defines a `public class Dog` that extends `Animal`. It includes a `main` method that creates a `Dog` object, sets its attributes, and prints them. The code is as follows:

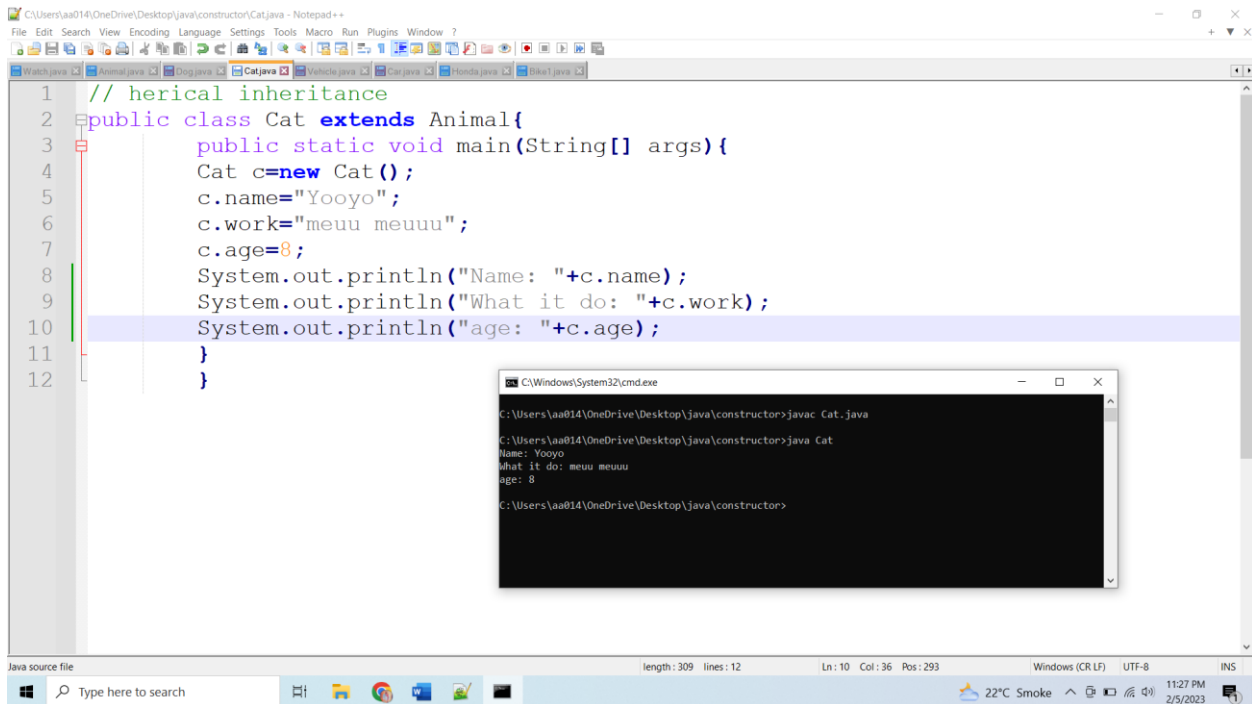
```
1 public class Dog extends Animal{
2
3     public static void main(String[] args){
4         Dog d=new Dog();
5         d.name="tom";
6         d.work="barking";
7         d.age=6;
8         System.out.println(d.name);
9         System.out.println(d.work);
10        System.out.println(d.age);
11
12    }
13 }
14
15
```

An inset window shows a command prompt with the following commands and output:

```
C:\Windows\System32\cmd.exe
C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Dog.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Dog
tom
barking
6
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

The status bar at the bottom indicates the file is a Java source file, with a length of 248 and 15 lines. The cursor is at line 15, column 5, position 249. The system tray shows a temperature of 23°C, smoke, and the date 2/5/2023.

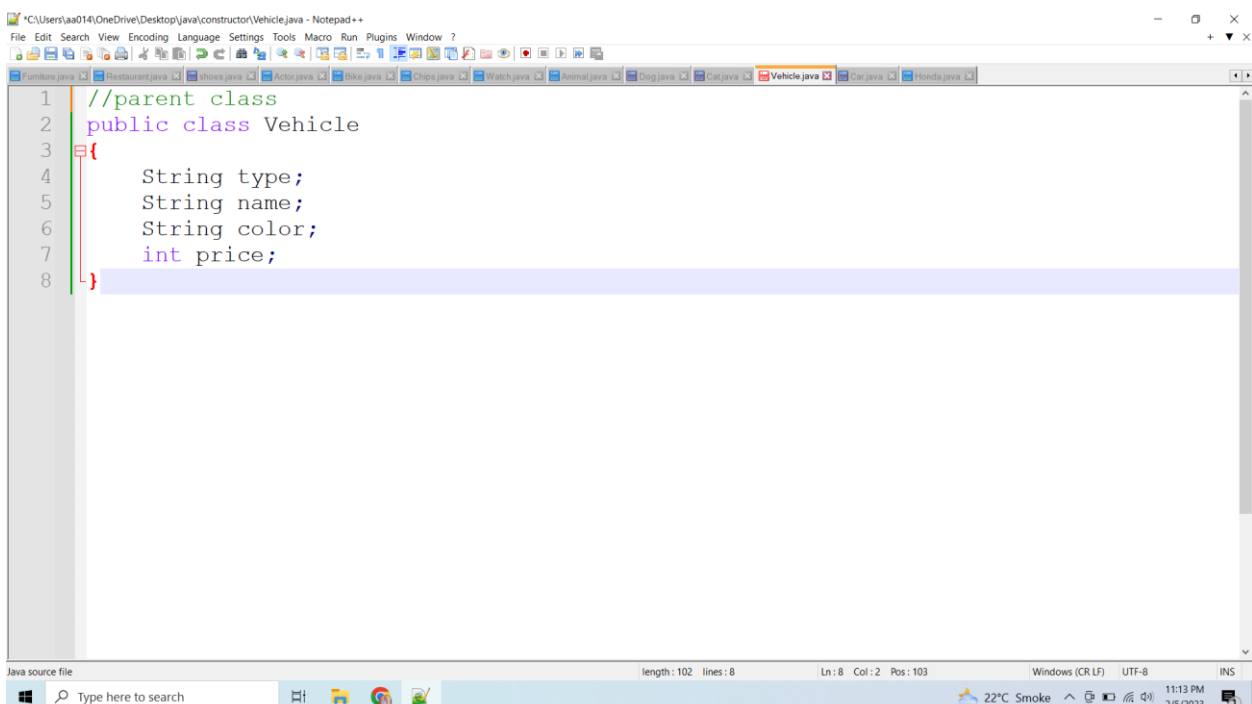
Cat Also Extends same Class Animal so now it becomes(Herical Inheritance)



```
1 // herical inheritance
2 public class Cat extends Animal{
3     public static void main(String[] args){
4         Cat c=new Cat();
5         c.name="Yooyo";
6         c.work="meuu meuuu";
7         c.age=8;
8         System.out.println("Name: "+c.name);
9         System.out.println("What it do: "+c.work);
10        System.out.println("age: "+c.age);
11    }
12 }
```

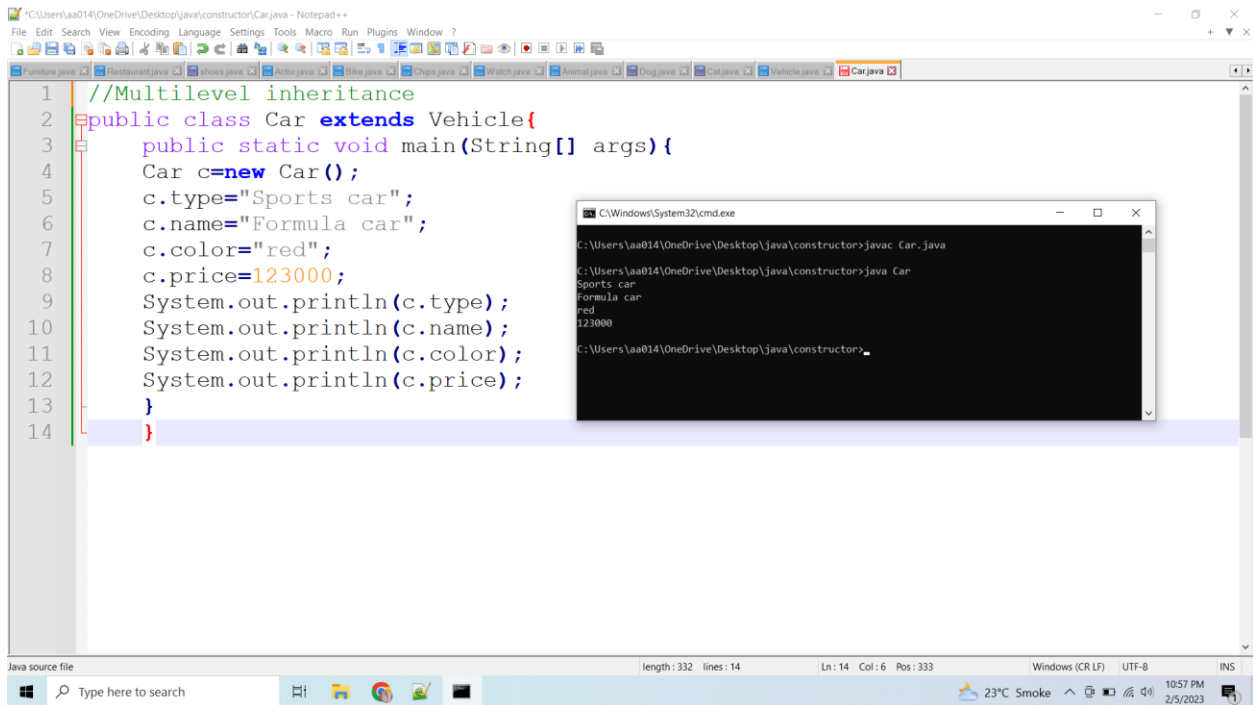
```
C:\Windows\System32\cmd.exe
C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Cat.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Cat
Name: Yooyo
What it do: meuu meuuu
age: 8
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

Parent Class Vehicle



```
1 //parent class
2 public class Vehicle
3 {
4     String type;
5     String name;
6     String color;
7     int price;
8 }
```

Car extends vehicle class (car extends vehicle)



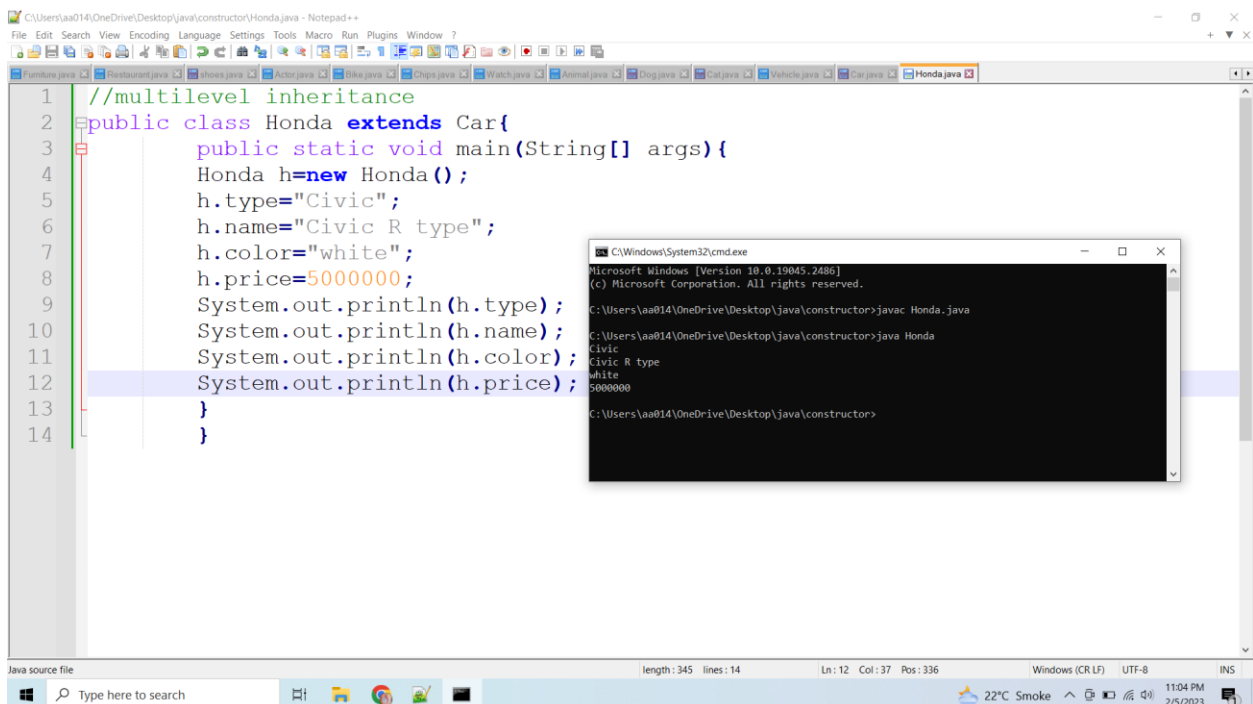
```
1 //Multilevel inheritance
2 public class Car extends Vehicle{
3     public static void main(String[] args){
4         Car c=new Car();
5         c.type="Sports car";
6         c.name="Formula car";
7         c.color="red";
8         c.price=123000;
9         System.out.println(c.type);
10        System.out.println(c.name);
11        System.out.println(c.color);
12        System.out.println(c.price);
13    }
14 }
```

```
C:\Windows\System32\cmd.exe
C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Car.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Car
Sports car
Formula car
red
123000
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

For car class parent class is vehicle but for honda class parent class is Car

Car extends vehicle

Honda extends car (Multi level inheritance)



```
1 //multilevel inheritance
2 public class Honda extends Car{
3     public static void main(String[] args){
4         Honda h=new Honda();
5         h.type="Civic";
6         h.name="Civic R type";
7         h.color="white";
8         h.price=5000000;
9         System.out.println(h.type);
10        System.out.println(h.name);
11        System.out.println(h.color);
12        System.out.println(h.price);
13    }
14 }
```

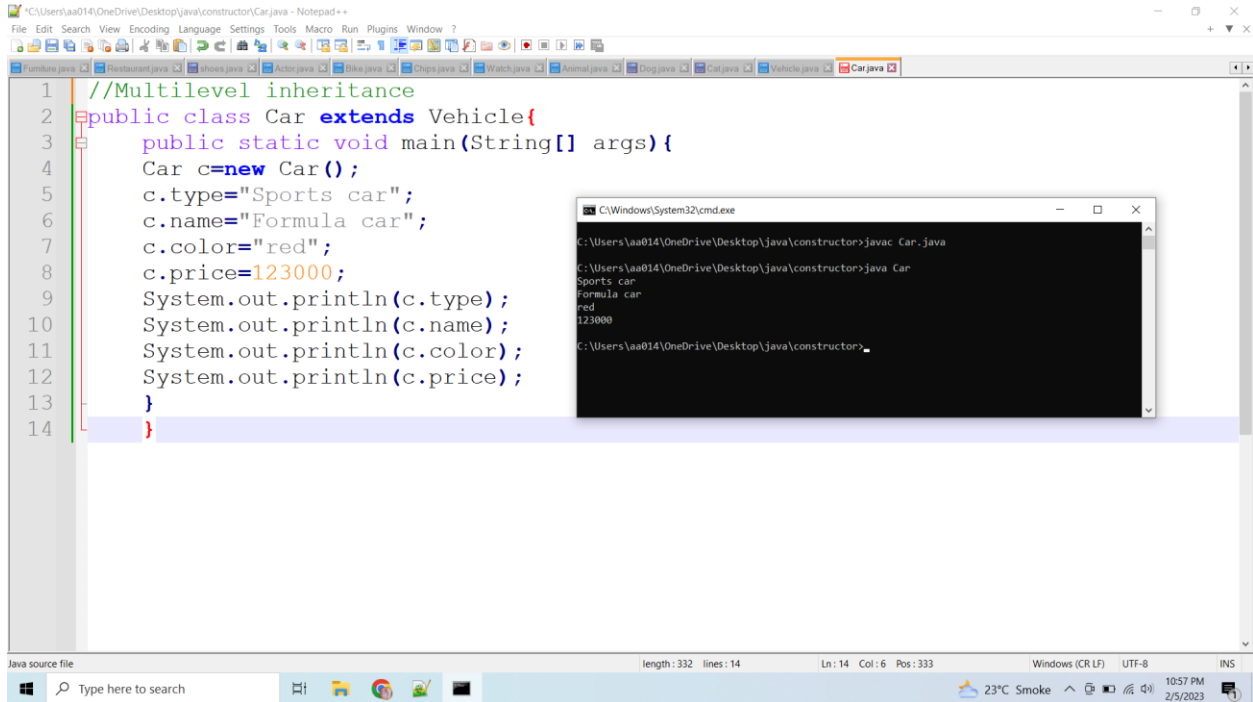
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.2486]
(c) Microsoft Corporation. All rights reserved.

C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Honda.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Honda
Civic
Civic R type
white
5000000
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

Car extends vehicle

Bike also extends vehicle

Honda extends Car (this is called Hybrid inheritance)

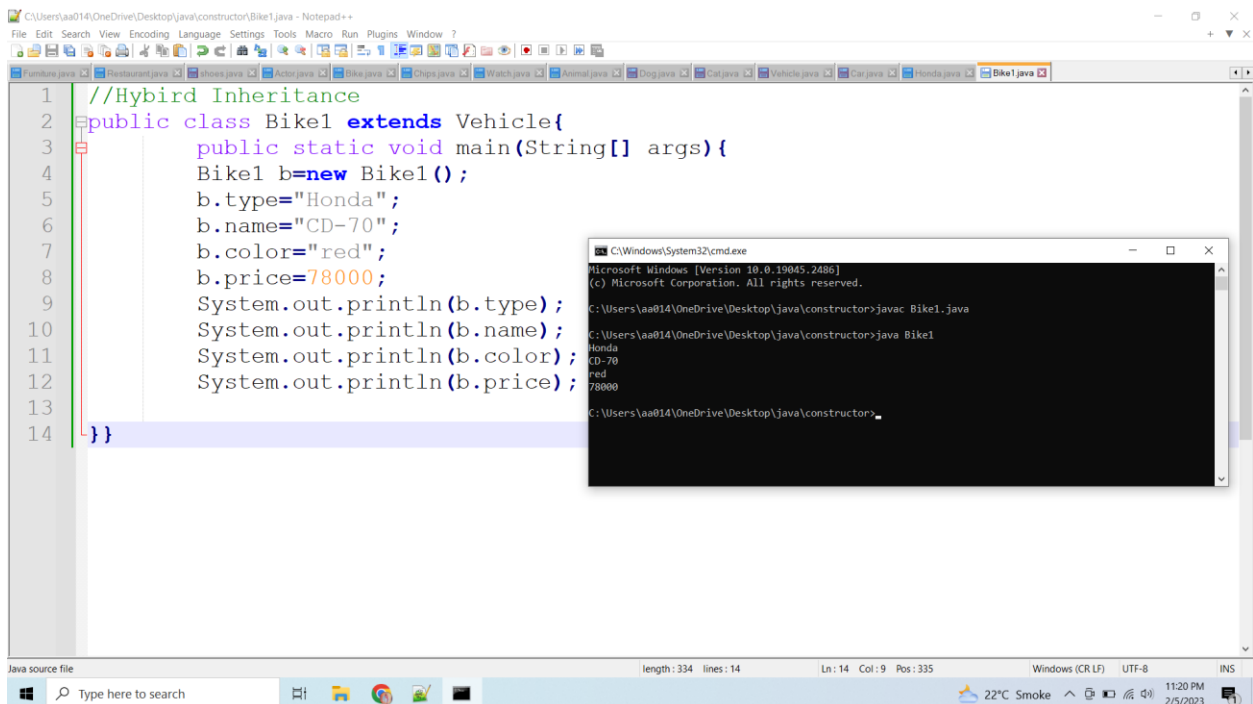


The screenshot shows a Notepad++ window with the file Car.java open. The code defines a Car class that extends Vehicle. The main method creates a Car object, sets its type to "Sports car", name to "Formula car", color to "red", and price to 123000, and then prints these details. A terminal window is overlaid on the code, showing the command 'javac Car.java' and the output of the program.

```
//Multilevel inheritance
public class Car extends Vehicle{
    public static void main(String[] args){
        Car c=new Car();
        c.type="Sports car";
        c.name="Formula car";
        c.color="red";
        c.price=123000;
        System.out.println(c.type);
        System.out.println(c.name);
        System.out.println(c.color);
        System.out.println(c.price);
    }
}
```

```
C:\Windows\System32\cmd.exe
C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Car.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Car
Sports car
Formula car
red
123000
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

Bike also extends vehicle

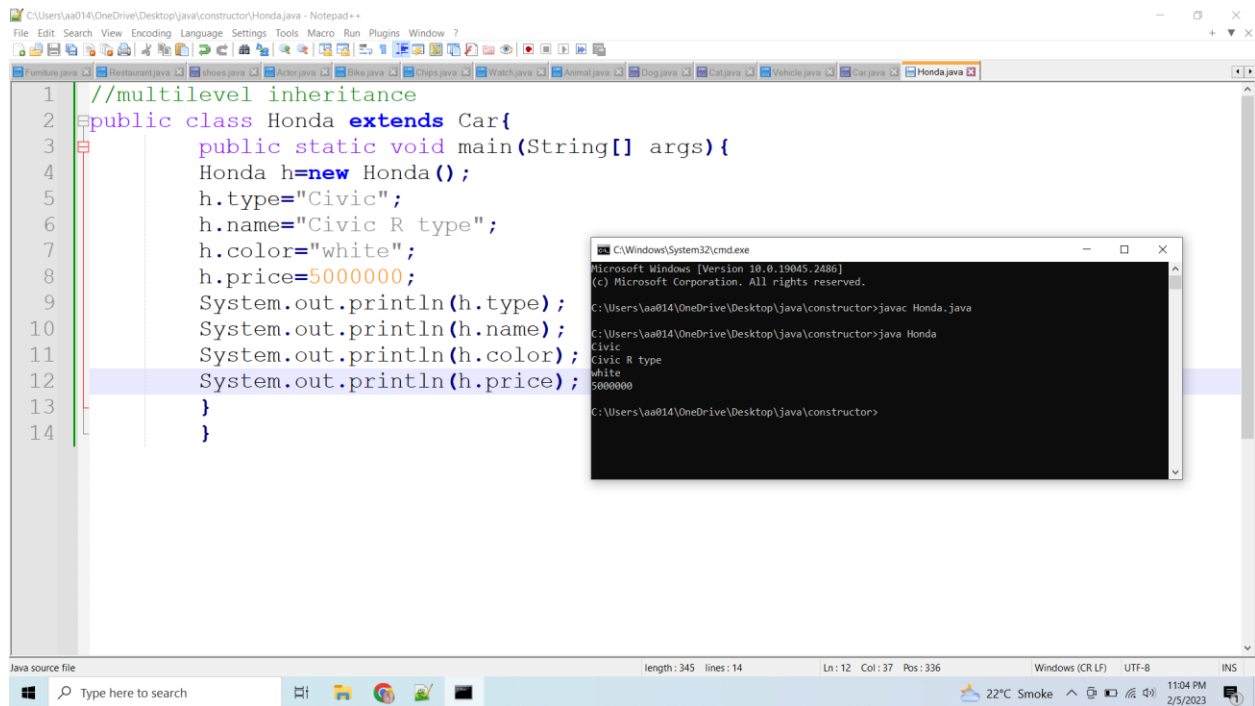


The screenshot shows a Notepad++ window with the file Bike1.java open. The code defines a Bike1 class that extends Vehicle. The main method creates a Bike1 object, sets its type to "Honda", name to "CD-70", color to "red", and price to 78000, and then prints these details. A terminal window is overlaid on the code, showing the command 'javac Bike1.java' and the output of the program.

```
//Hybird Inheritance
public class Bike1 extends Vehicle{
    public static void main(String[] args){
        Bike1 b=new Bike1();
        b.type="Honda";
        b.name="CD-70";
        b.color="red";
        b.price=78000;
        System.out.println(b.type);
        System.out.println(b.name);
        System.out.println(b.color);
        System.out.println(b.price);
    }
}
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.2486]
(c) Microsoft Corporation. All rights reserved.
C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Bike1.java
C:\Users\aa014\OneDrive\Desktop\java\constructor>java Bike1
Honda
CD-70
red
78000
C:\Users\aa014\OneDrive\Desktop\java\constructor>
```

Honda extends car



```
1 //multilevel inheritance
2 public class Honda extends Car{
3     public static void main(String[] args){
4         Honda h=new Honda();
5         h.type="Civic";
6         h.name="Civic R type";
7         h.color="white";
8         h.price=5000000;
9         System.out.println(h.type);
10        System.out.println(h.name);
11        System.out.println(h.color);
12        System.out.println(h.price);
13    }
14 }
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.2486]
(c) Microsoft Corporation. All rights reserved.

C:\Users\aa014\OneDrive\Desktop\java\constructor>javac Honda.java

C:\Users\aa014\OneDrive\Desktop\java\constructor>java Honda
Civic
Civic R type
white
5000000

C:\Users\aa014\OneDrive\Desktop\java\constructor>
```