

Java week-06

Welcome J exceptionDemo.java J WrongAge.class J SmartDevicesController.java X J RideSharing

J SmartDevicesController.java > SmartDevicesController

```
1  import java.util.Scanner;
2
3  // SmartDevice Interface
4  interface SmartDevice {
5      void turnOn(); // Turn the device on
6      void turnOff(); // Turn the device off
7  }
8
9  // Light Class
10 class Light implements SmartDevice {
11     @Override
12     public void turnOn() {
13         System.out.println("Light is ON");
14     }
15
16     @Override
17     public void turnOff() {
18         System.out.println("Light is OFF");
19     }
20 }
21
22 // Fan Class
23 class Fan implements SmartDevice {
24     @Override
25     public void turnOn() {
26         System.out.println("Fan is ON");
27     }
28
29     @Override
30     public void turnOff() {
31         System.out.println("Fan is OFF");
32     }
33 }
34
35 // AC Class
36 class AC implements SmartDevice {
37     @Override
38     public void turnOn() {
39         System.out.println("AC is ON");
40     }
41
42     @Override
43     public void turnOff() {
44         System.out.println("AC is OFF");
45     }
46 }
47
```

```

47
48 // DoorLock Class
49 class DoorLock implements SmartDevice {
50     @Override
51     public void turnOn() {
52         System.out.println("Door is locked");
53     }
54
55     @Override
56     public void turnOff() {
57         System.out.println("Door is unlocked");
58     }
59 }
60
61 // Main Program for Smart Device Controller
62
63
64 public class SmartDevicesController {
65     Run | Debug
66     public static void main(String[] args) {
67         // Create Scanner object to accept user input
68         Scanner scanner = new Scanner(System.in);
69
70         // Create device objects
71         SmartDevice light = new Light();
72         SmartDevice fan = new Fan();
73         SmartDevice ac = new AC();
74         SmartDevice doorLock = new DoorLock();

```

```

75 // User input for controlling devices
76 System.out.println("Select device to control (1: Light, 2: Fan, 3: AC, 4: DoorLock):");
77 int deviceSelection = scanner.nextInt();
78
79 // Control the selected device based on user input
80 switch (deviceSelection) {
81     case 1:
82         System.out.println("Select action (1: Turn ON, 2: Turn OFF):");
83         int lightAction = scanner.nextInt();
84         if (lightAction == 1) light.turnOn();
85         else if (lightAction == 2) light.turnOff();
86         break;
87     case 2:
88         System.out.println("Select action (1: Turn ON, 2: Turn OFF):");
89         int fanAction = scanner.nextInt();
90         if (fanAction == 1) fan.turnOn();
91         else if (fanAction == 2) fan.turnOff();
92         break;
93     case 3:
94         System.out.println("Select action (1: Turn ON, 2: Turn OFF):");
95         int acAction = scanner.nextInt();
96         if (acAction == 1) ac.turnOn();
97         else if (acAction == 2) ac.turnOff();
98         break;
99     case 4:
100         System.out.println("Select action (1: Lock, 2: Unlock):");
101         int doorLockAction = scanner.nextInt();
102         if (doorLockAction == 1) doorLock.turnOn();
103         else if (doorLockAction == 2) doorLock.turnOff();
104         break;
105     default:
106         System.out.println("Invalid selection.");
107 }
108 }
109 }
110

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> **javac** SmartDevicesController.java

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> **java** SmartDevicesController

Select device to control (1: Light, 2: Fan, 3: AC, 4: DoorLock):

1

Select action (1: Turn ON, 2: Turn OFF):

1

Light is ON

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> **java** SmartDevicesController

Select device to control (1: Light, 2: Fan, 3: AC, 4: DoorLock):

4

Select action (1: Lock, 2: Unlock):

2

Door is unlocked

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> **java** SmartDevicesController

Select device to control (1: Light, 2: Fan, 3: AC, 4: DoorLock):

3

Select action (1: Turn ON, 2: Turn OFF):

1

AC is ON

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> **java** SmartDevicesController

Select device to control (1: Light, 2: Fan, 3: AC, 4: DoorLock):

2

Select action (1: Turn ON, 2: Turn OFF):

2

Fan is OFF

PS C:\Users\BMSCE\Desktop\SHIRISHA B R> █