

Java week-06

```
⚡ Welcome ⚡ exceptionDemo.java ⚡ WrongAge.class ⚡ SmartDevicesController.java X ⚡ 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 {
    Run|Debug
65     public static void main(String[] args) {
66         // Create Scanner object to accept user input
67         Scanner scanner = new Scanner(System.in);
68
69         // Create device objects
70         SmartDevice light = new Light();
71         SmartDevice fan = new Fan();
72         SmartDevice ac = new AC();
73         SmartDevice doorLock = new DoorLock();
74 }
```

```
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}
```

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>
```