

PRAKTIKUM
PEMROGRAMAN BERORIENTASI OBJEK
MODUL 10



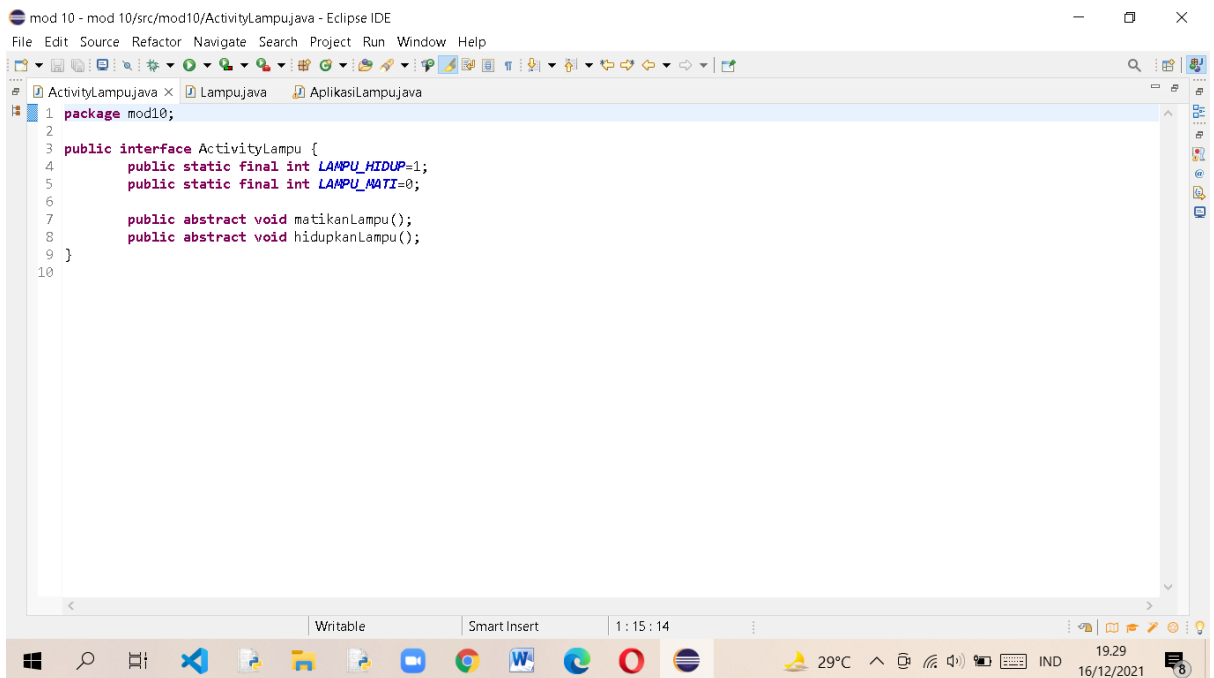
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PROGRAM STUDI
INFORMATIKA
FAKULTAS KOMUNIKASI DAN INFORMATIKA
UNIVERSITAS MUHAMMADIYAH SURAKARTA
TAHUN 2021/2022

1. Percobaan

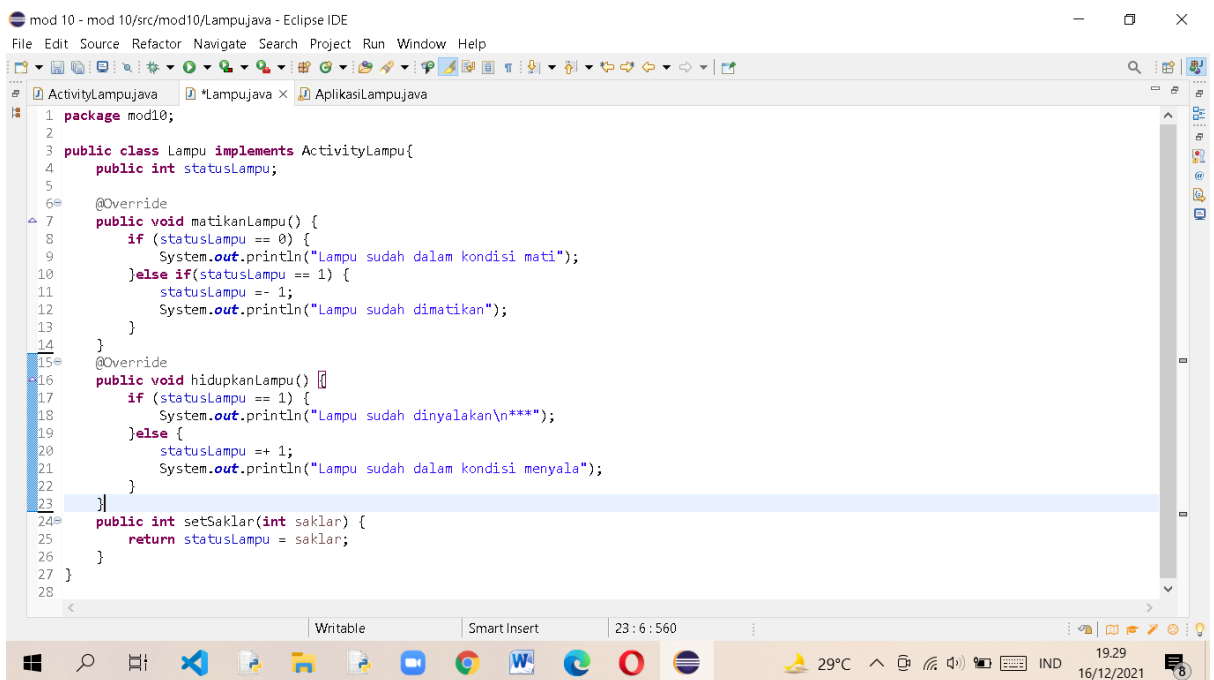
- Interface ActivityLampu



The screenshot shows the Eclipse IDE with the file 'mod10 - mod10/src/mod10/ActivityLampu.java' open. The code defines an interface named 'ActivityLampu' within the 'mod10' package. It includes two static final integer variables, 'LAMPU_HIDUP' with a value of 1 and 'LAMPU_MATI' with a value of 0. It also defines two abstract methods: 'matikanLampu()' and 'hidupkanLampu()'.

```
1 package mod10;
2
3 public interface ActivityLampu {
4     public static final int LAMPU_HIDUP=1;
5     public static final int LAMPU_MATI=0;
6
7     public abstract void matikanLampu();
8     public abstract void hidupkanLampu();
9 }
10
```

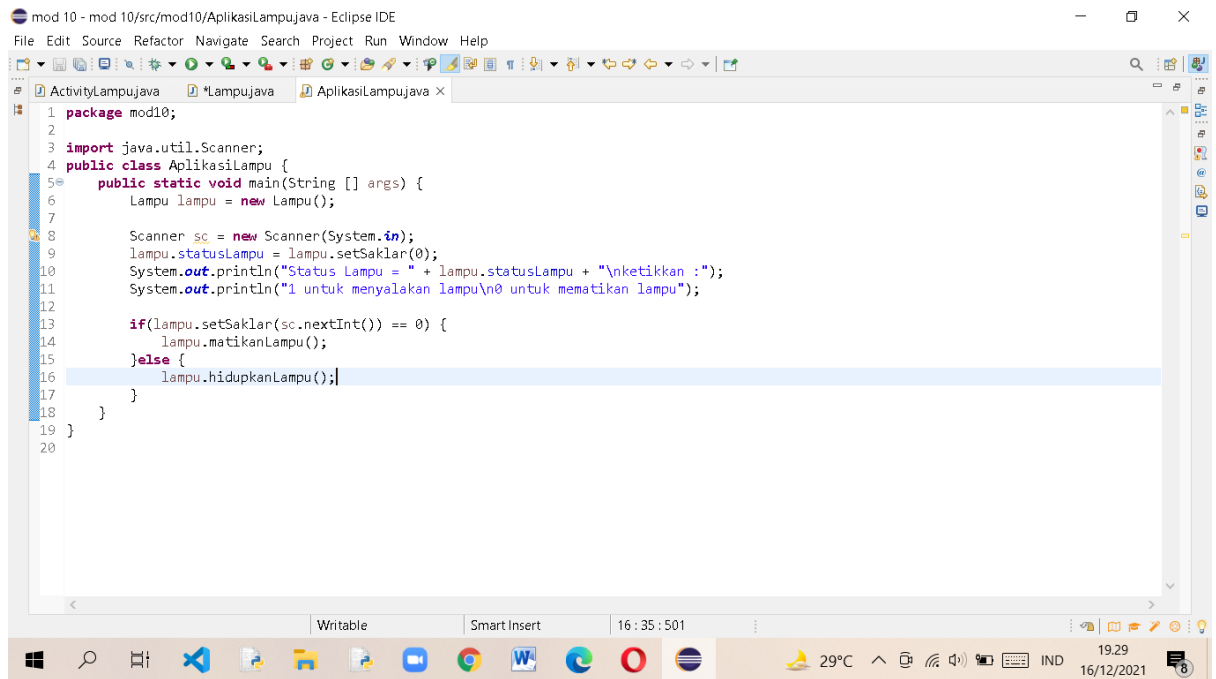
- Class Lampu



The screenshot shows the Eclipse IDE with the file 'mod10 - mod10/src/mod10/Lampu.java' open. The code defines a class named 'Lampu' that implements the 'ActivityLampu' interface. It includes a private integer variable 'statusLampu'. The class has two methods: 'matikanLampu()' which checks if the lamp is on (status 1) and turns it off (status 0), and 'hidupkanLampu()' which checks if the lamp is off (status 0) and turns it on (status 1). Both methods use 'System.out.println' to provide feedback. There is also a 'setSaklar' method that sets the 'statusLampu' to the provided 'saklar' value.

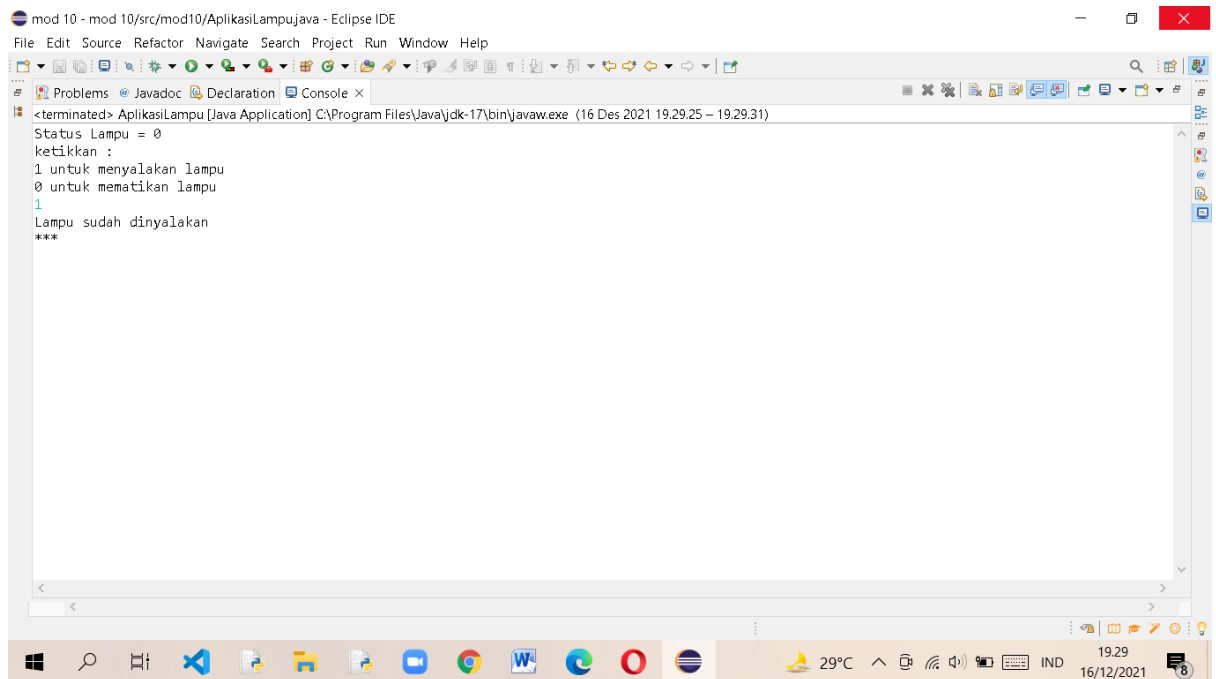
```
1 package mod10;
2
3 public class Lampu implements ActivityLampu{
4     public int statusLampu;
5
6     @Override
7     public void matikanLampu() {
8         if (statusLampu == 1) {
9             System.out.println("Lampu sudah dalam kondisi mati");
10            statusLampu = 0;
11        } else if (statusLampu == 0) {
12            System.out.println("Lampu sudah dimatikan");
13        }
14    }
15
16    @Override
17    public void hidupkanLampu() {
18        if (statusLampu == 0) {
19            System.out.println("Lampu sudah dinyalakan");
20        } else if (statusLampu == 1) {
21            System.out.println("Lampu sudah dalam kondisi menyala");
22        }
23    }
24
25    public int setSaklar(int saklar) {
26        return statusLampu = saklar;
27    }
28 }
```

- Class AplikasiLampu

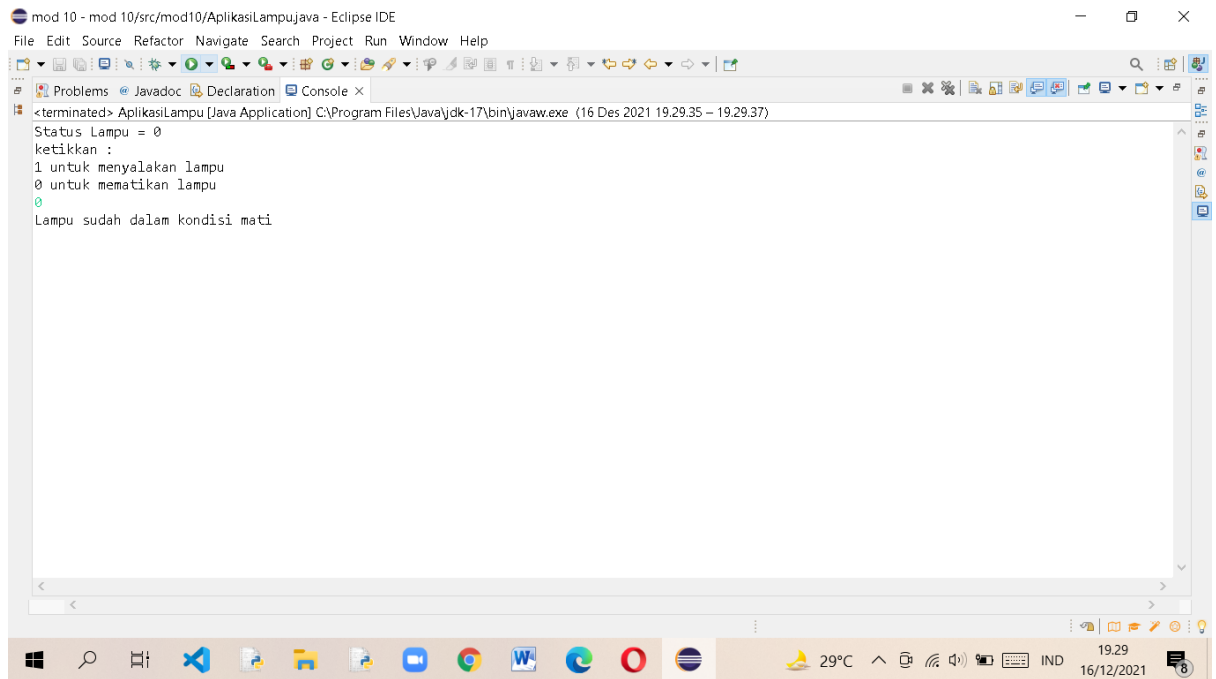


```
1 package mod10;
2
3 import java.util.Scanner;
4 public class AplikasiLampu {
5     public static void main(String [] args) {
6         Lampu lampu = new Lampu();
7
8         Scanner sc = new Scanner(System.in);
9         lampu.statusLampu = lampu.setSaklar(0);
10        System.out.println("Status Lampu = " + lampu.statusLampu + "\nketikkan :");
11        System.out.println("1 untuk menyalakan lampu\n0 untuk mematikan lampu");
12
13        if(lampu.setSaklar(sc.nextInt()) == 0) {
14            lampu.matikanLampu();
15        } else {
16            lampu.hidupkanLampu();
17        }
18    }
19 }
20
```

- Output



```
<terminated> AplikasiLampu [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (16 Des 2021 19.29.25 – 19.29.31)
Status Lampu = 0
ketikkan :
1 untuk menyalakan lampu
0 untuk mematikan lampu
1
Lampu sudah dinyalakan
***
```



The screenshot shows the Eclipse IDE interface. The title bar reads "mod 10 - mod 10/src/mod10/AplikasiLampu.java - Eclipse IDE". The menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. The toolbar contains various icons for file operations and development tools. The "Console" tab is active, displaying the following output:

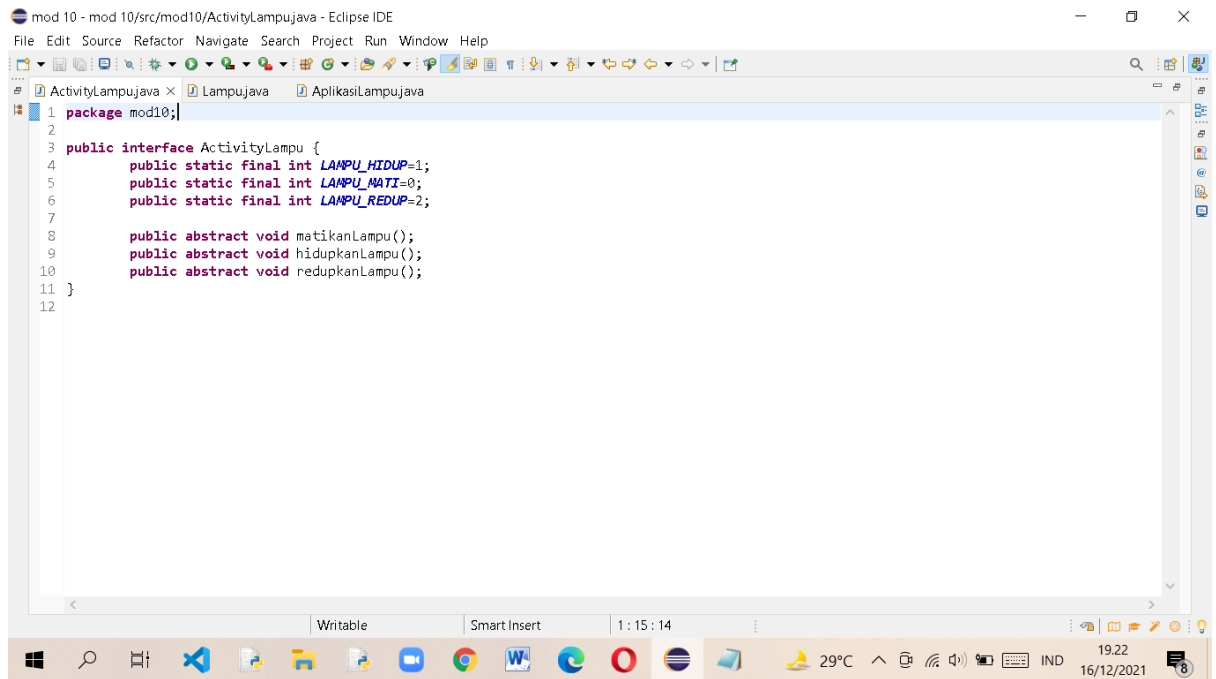
```
<terminated> AplikasiLampu [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (16 Des 2021 19:29:35 - 19:29:37)
Status Lampu = 0
ketikkan :
1 untuk menyalakan lampu
0 untuk mematikan lampu
0
Lampu sudah dalam kondisi mati
```

The Windows taskbar at the bottom shows the Start button, search icon, task view icon, and several application icons including Visual Studio Code, File Explorer, and web browsers. The system tray on the right indicates a temperature of 29°C, network status, and the date and time: 19:29 on 16/12/2021.

2. TUGAS

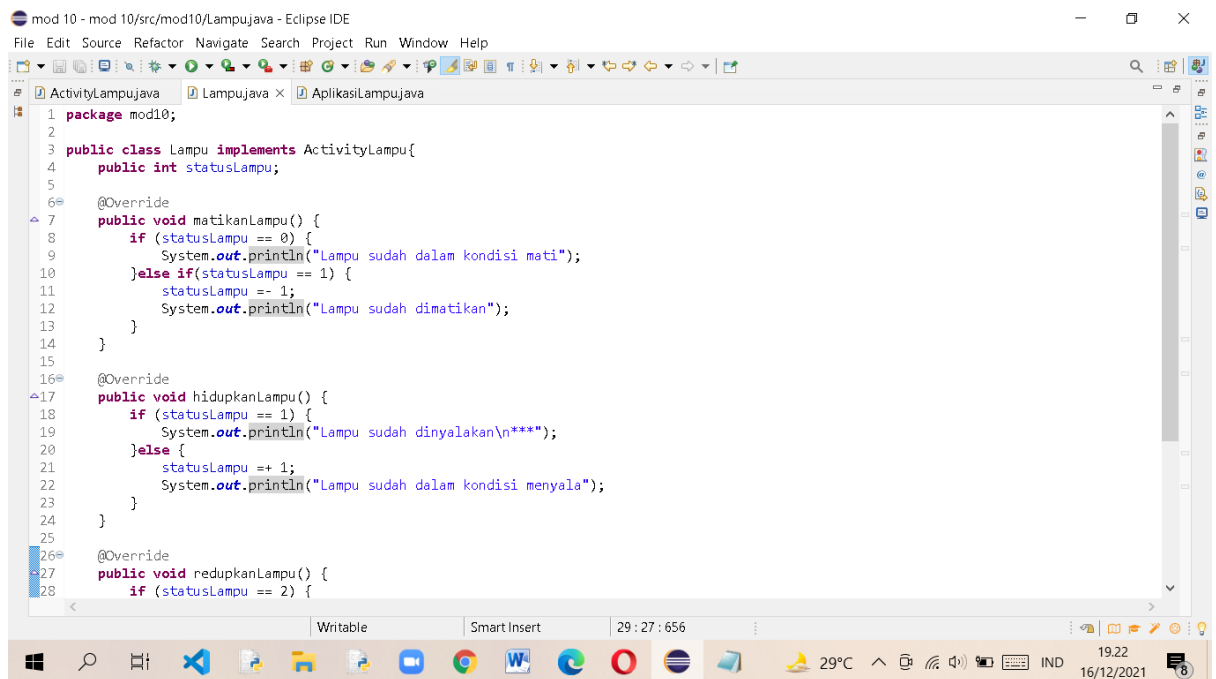
Modifikasi class Lampu di atas dengan menambahkan satu variabel static final LAMPU_REDUP, dan tambahkan method untuk meredupkan lampu. Selanjutnya buat class dengan fungsi main() untuk menjalankannya!

- Interface ActivityLampu

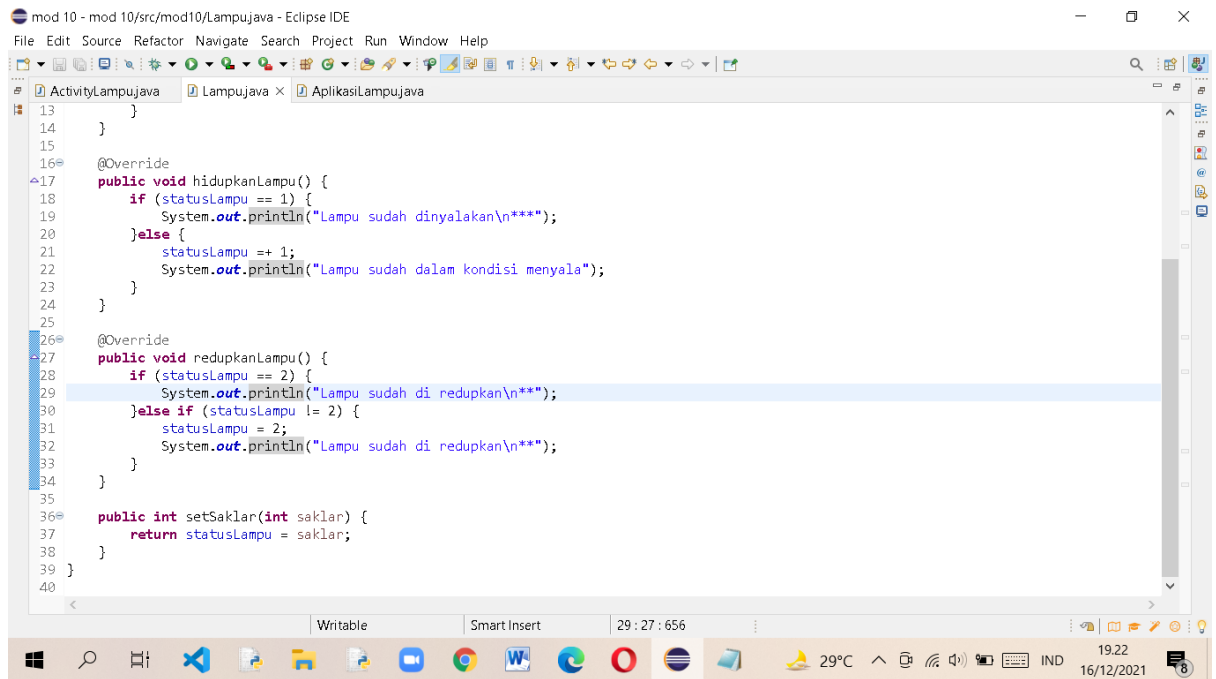


```
1 package mod10;
2
3 public interface ActivityLampu {
4     public static final int LAMPU_HIDUP=1;
5     public static final int LAMPU_MATI=0;
6     public static final int LAMPU_REDUP=2;
7
8     public abstract void matikanLampu();
9     public abstract void hidupkanLampu();
10    public abstract void redupkanLampu();
11 }
12
```

- Class lampu



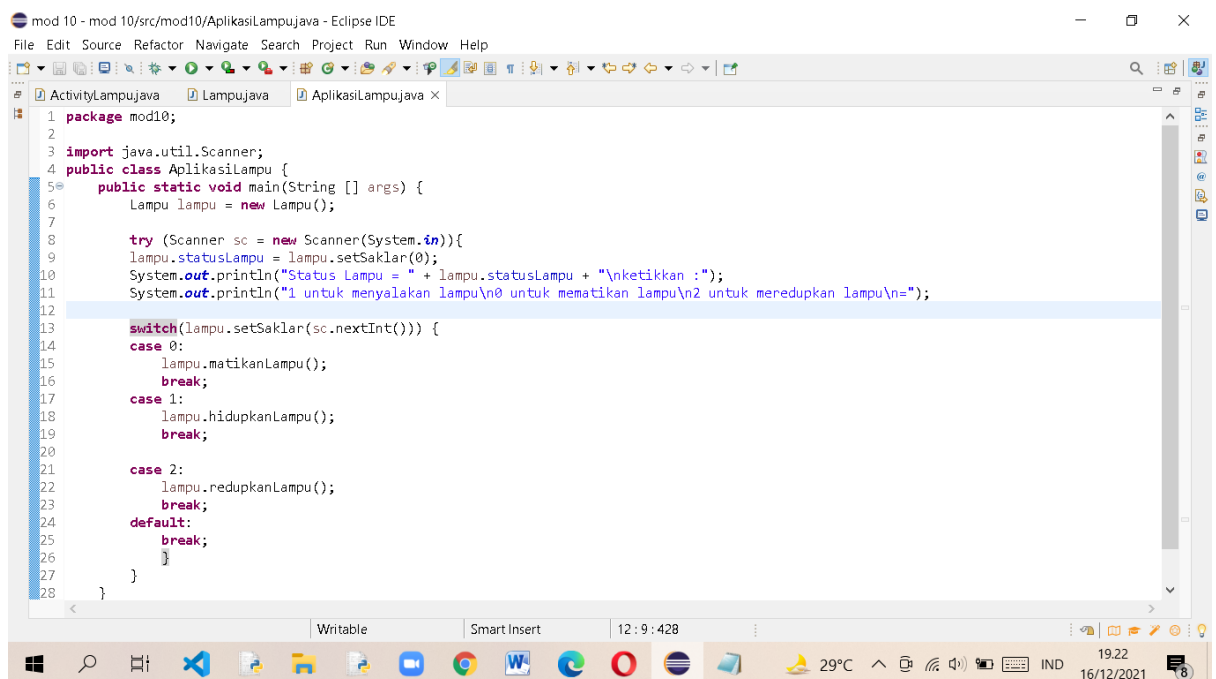
```
1 package mod10;
2
3 public class Lampu implements ActivityLampu{
4     public int statusLampu;
5
6     @Override
7     public void matikanLampu() {
8         if (statusLampu == 0) {
9             System.out.println("Lampu sudah dalam kondisi mati");
10        }else if(statusLampu == 1) {
11            statusLampu -= 1;
12            System.out.println("Lampu sudah dimatikan");
13        }
14    }
15
16    @Override
17    public void hidupkanLampu() {
18        if (statusLampu == 1) {
19            System.out.println("Lampu sudah dinyalakan\n***");
20        }else {
21            statusLampu += 1;
22            System.out.println("Lampu sudah dalam kondisi menyala");
23        }
24    }
25
26    @Override
27    public void redupkanLampu() {
28        if (statusLampu == 2) {
29
30        }
31    }
32 }
```



```
mod 10 - mod 10/src/mod10/Lampu.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

13 }
14 }
15
16 @Override
17 public void hidupkanLampu() {
18     if (statusLampu == 1) {
19         System.out.println("Lampu sudah dinyalakan\n***");
20     } else {
21         statusLampu += 1;
22         System.out.println("Lampu sudah dalam kondisi menyala");
23     }
24 }
25
26 @Override
27 public void redupkanLampu() {
28     if (statusLampu == 2) {
29         System.out.println("Lampu sudah di redupkan\n***");
30     } else if (statusLampu != 2) {
31         statusLampu = 2;
32         System.out.println("Lampu sudah di redupkan\n***");
33     }
34 }
35
36 public int setSaklar(int saklar) {
37     return statusLampu = saklar;
38 }
39 }
40
```

- Class aplikasiLampu



```
mod 10 - mod 10/src/mod10/AplikasiLampu.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

1 package mod10;
2
3 import java.util.Scanner;
4 public class AplikasiLampu {
5     public static void main(String [] args) {
6         Lampu lampu = new Lampu();
7
8         try (Scanner sc = new Scanner(System.in)){
9             lampu.statusLampu = lampu.setSaklar(0);
10            System.out.println("Status Lampu = " + lampu.statusLampu + "\nketikkan :");
11            System.out.println("1 untuk menyalakan lampu\n0 untuk mematikan lampu\n2 untuk meredupkan lampu\n=");
12
13            switch(lampu.setSaklar(sc.nextInt())) {
14                case 0:
15                    lampu.matikanLampu();
16                    break;
17                case 1:
18                    lampu.hidupkanLampu();
19                    break;
20
21                case 2:
22                    lampu.redupkanLampu();
23                    break;
24                default:
25                    break;
26            }
27        }
28    }
29 }
```

- Output

