

OBJECT-ORIENTED PROGRAMMING WORK

MODULE 10



CREATED BY :

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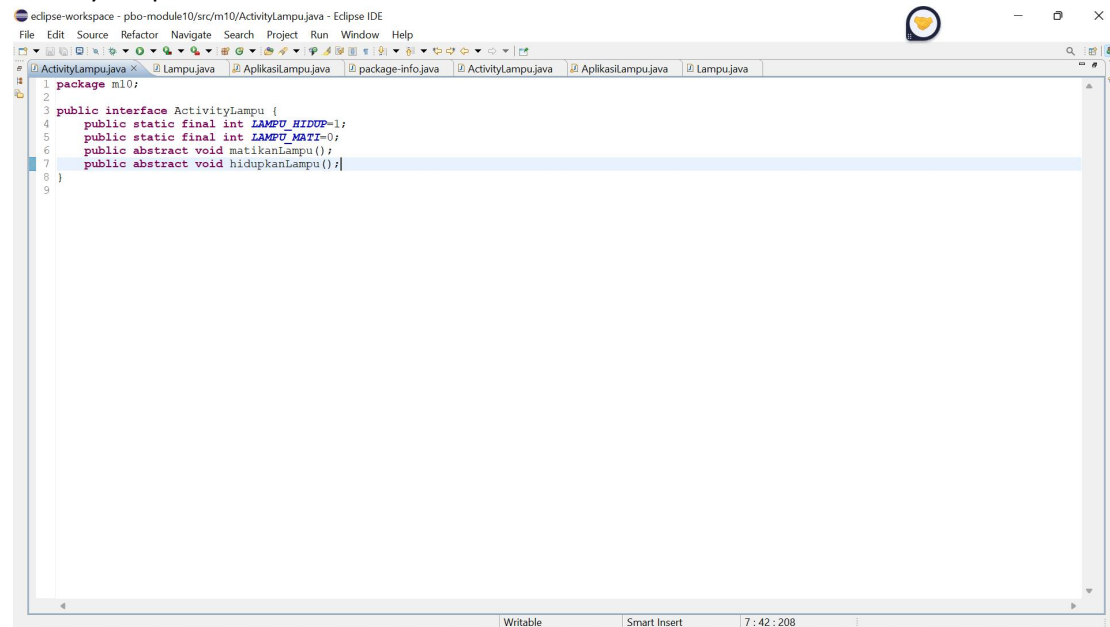
INFORMATICS STUDY PROGRAM

FACULTY OF COMMUNICATION AND INFORMATION SCIENCE

MUHAMMADIYAH SURAKARTA UNIVERSITY

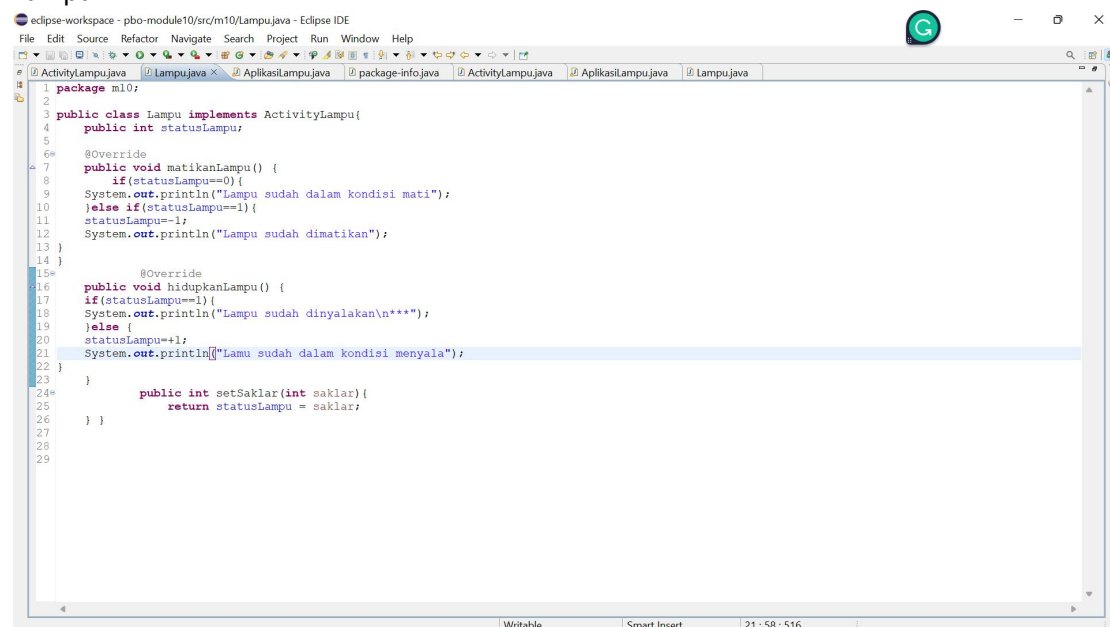
1. Practice

ActivityLampu Interface



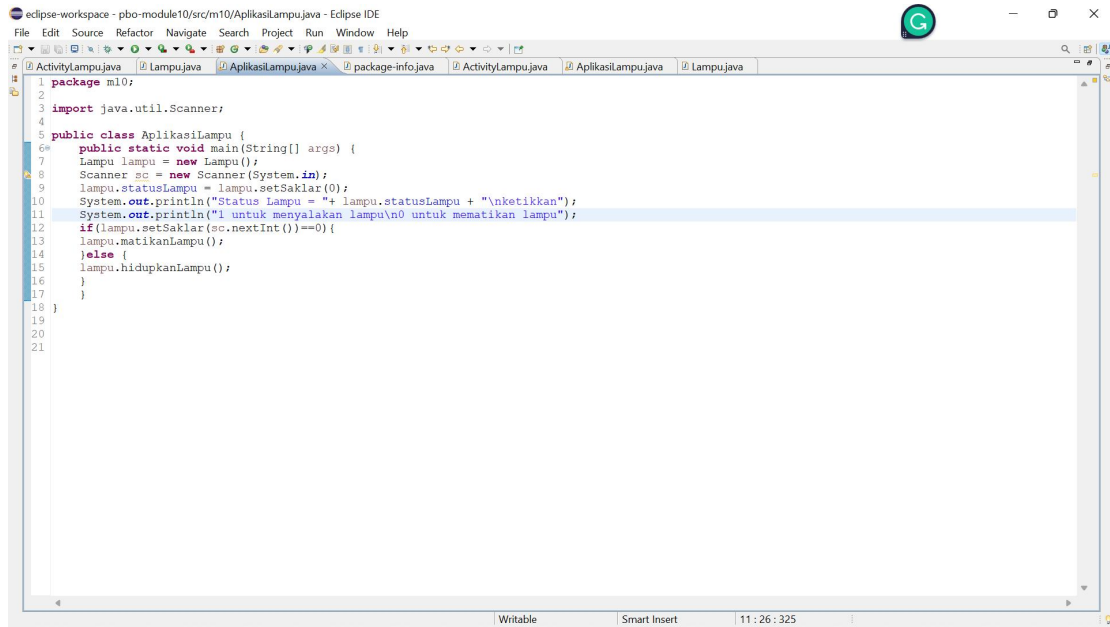
```
1 package m10;
2
3 public interface ActivityLampu {
4     public static final int LAMPU_HIDUP=1;
5     public static final int LAMPU_MATI=0;
6     public abstract void matikanLampu();
7     public abstract void hidupkanLampu();
8 }
9
```

Lampu



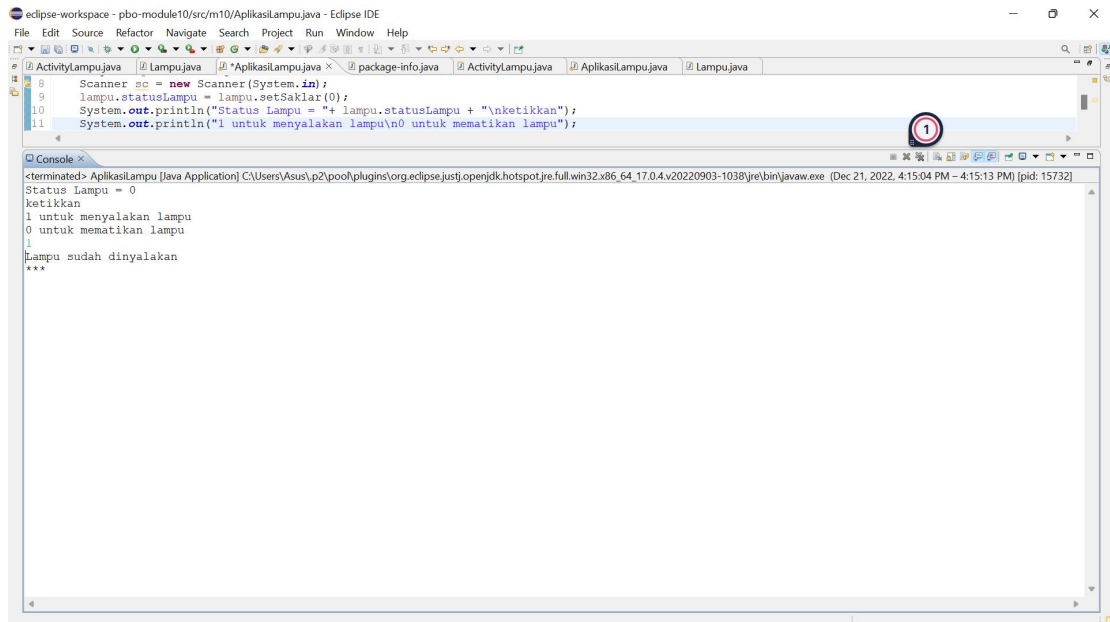
```
1 package m10;
2
3 public class Lampu implements ActivityLampu{
4     public int statusLampu;
5
6     @Override
7     public void matikanLampu() {
8         if(statusLampu==0){
9             System.out.println("Lampu sudah dalam kondisi mati");
10        }else if(statusLampu==1){
11            statusLampu=0;
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        public int setSaklar(int saklar){
26            return statusLampu = saklar;
27        }
28    }
29 }
```

AplikasiLampu

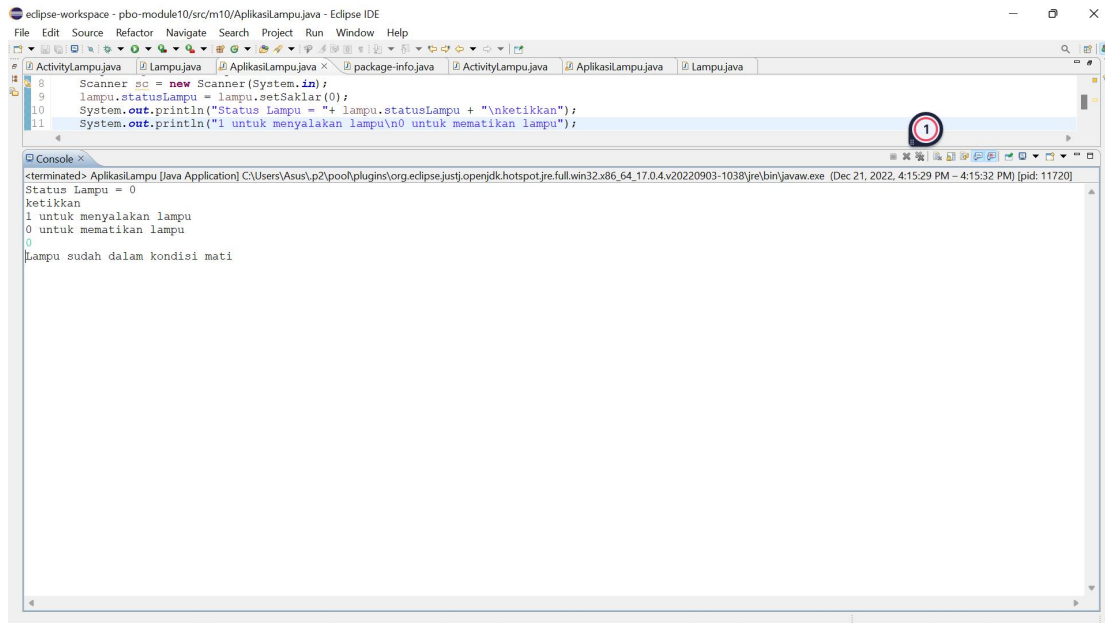


```
1 package m10;
2
3 import java.util.Scanner;
4
5 public class AplikasiLampu {
6     public static void main(String[] args) {
7         Lampu lampu = new Lampu();
8         Scanner sc = new Scanner(System.in);
9         lampu.statusLampu = lampu.setSaklar(0);
10        System.out.println("Status Lampu = "+ lampu.statusLampu + "\nketikkan");
11        System.out.println("1 untuk menyalakan lampu\n0 untuk mematikan lampu");
12        if(lampu.setSaklar(sc.nextInt())==0){
13            lampu.matikanLampu();
14        }else {
15            lampu.hidupkanLampu();
16        }
17    }
18 }
19
20
21
```

Output



```
<terminated> AplikasiLampu [Java Application] C:\Users\Asus\p2\poo\plugins\org.eclipse.justf.openjdk.hotspot.jre.full.win32.x86_64.17.0.4.v20220903-1038\jre\bin\javaw.exe (Dec 21, 2022, 4:15:04 PM - 4:15:13 PM) [pid: 15732]
Status Lampu = 0
ketikkan
1 untuk menyalakan lampu
0 untuk mematikan lampu
1
Lampu sudah dinyalakan
***
```



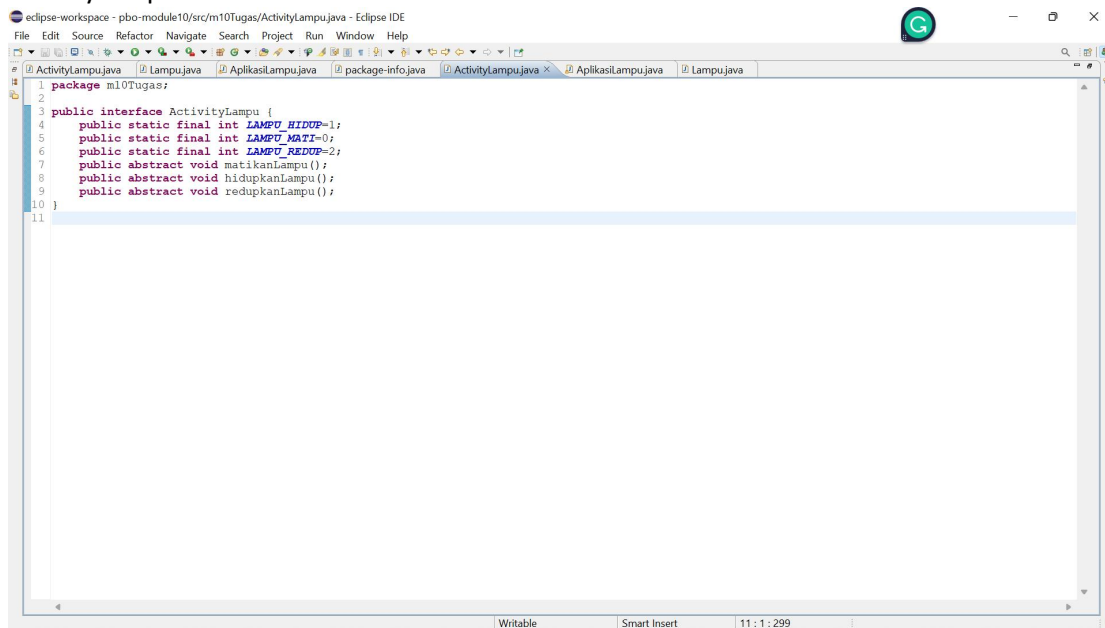
```
8 Scanner sc = new Scanner(System.in);
9 lampu.statusLampu = lampu.setSaklar(0);
10 System.out.println("Status Lampu = "+ lampu.statusLampu + "\nketikkan");
11 System.out.println("1 untuk menyalakan lampu\n0 untuk mematikan lampu");
```

```
<terminated> AplikasiLampu [Java Application] C:\Users\Asus\AppData\Local\Temp\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.17.0.4.v20220903-1038\jre\bin\javaw.exe (Dec 21, 2022, 4:15:29 PM - 4:15:32 PM) [pid: 11720]
Status Lampu = 0
ketikkan
1 untuk menyalakan lampu
0 untuk mematikan lampu
0
Lampu sudah dalam kondisi mati
```

Task

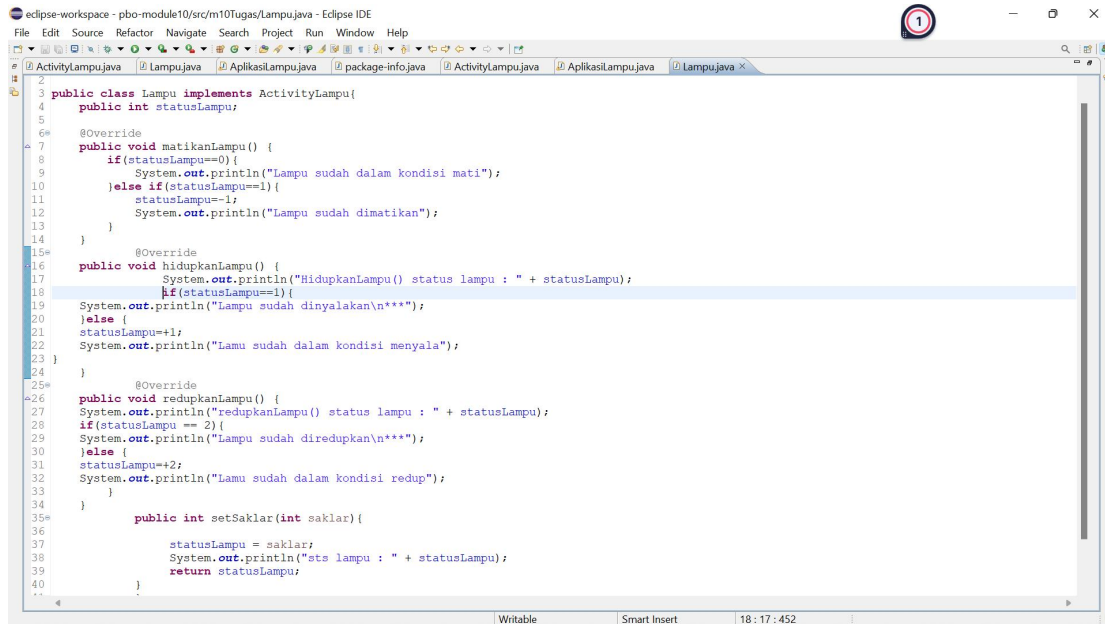
Modify the Lampu class above by adding a final static variable LAMP_DIMM, and adding a method to dim the lights. Next, create a class with the main() function to run it.

ActivityLampu Interface



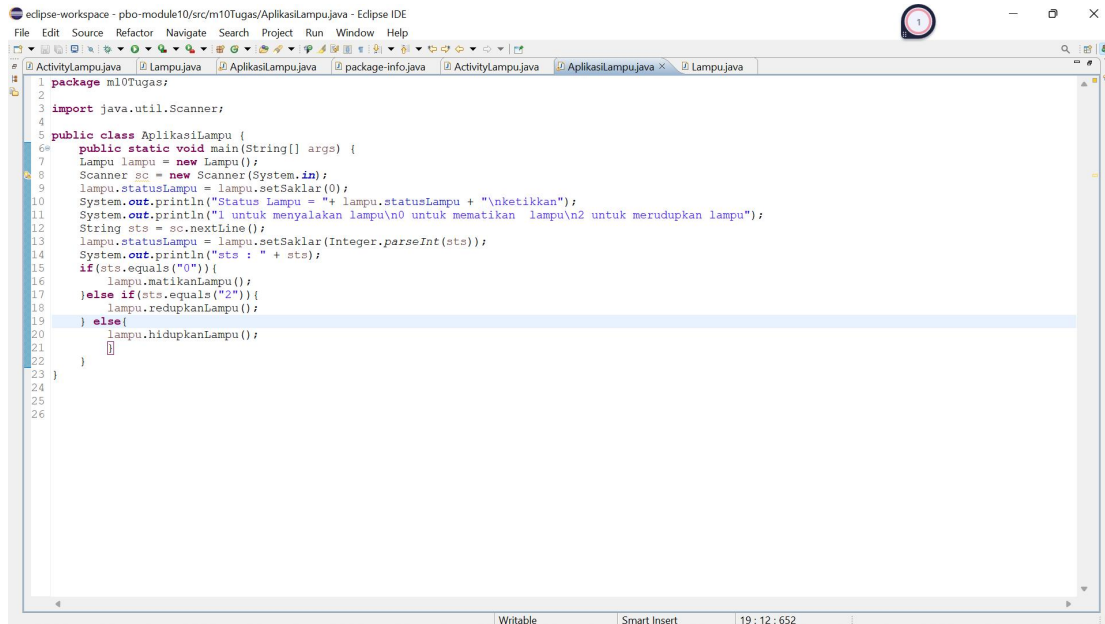
```
1 package m10Tugas;
2
3 public interface ActivityLampu {
4     public static final int LAMPU_HIDUP=1;
5     public static final int LAMPU_MATI=0;
6     public static final int LAMPU_REDUP=2;
7     public abstract void matikanLampu();
8     public abstract void hidupkanLampu();
9     public abstract void redupkanLampu();
10 }
11
```

Lampu



```
1 public class Lampu implements ActivityLampu {
2     public int statusLampu;
3
4     @Override
5     public void matikanLampu() {
6         if(statusLampu==0){
7             System.out.println("Lampu sudah dalam kondisi mati");
8         }else if(statusLampu==1){
9             statusLampu=-1;
10            System.out.println("Lampu sudah dimatikan");
11        }
12    }
13
14    @Override
15    public void hidupkanLampu() {
16        System.out.println("hidupkanLampu() status lampu : " + statusLampu);
17        if(statusLampu==1){
18            System.out.println("Lampu sudah dinyalakan\n***");
19        }else {
20            statusLampu+=1;
21            System.out.println("Lamu sudah dalam kondisi menyala");
22        }
23    }
24
25    @Override
26    public void redupkanLampu() {
27        System.out.println("redupkanLampu() status lampu : " + statusLampu);
28        if(statusLampu == 2){
29            System.out.println("Lampu sudah diredupkan\n***");
30        }else {
31            statusLampu+=2;
32            System.out.println("Lamu sudah dalam kondisi redup");
33        }
34    }
35
36    public int setSaklar(int saklar){
37        statusLampu = saklar;
38        System.out.println("sts lampu : " + statusLampu);
39        return statusLampu;
40    }
41 }
```

AplikasiLampu



```
1 package m10Tugas;
2
3 import java.util.Scanner;
4
5 public class AplikasiLampu {
6     public static void main(String[] args) {
7         Lampu lampu = new Lampu();
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\n2 untuk meredupkan lampu");
12        String sts = sc.nextLine();
13        lampu.statusLampu = lampu.setSaklar(Integer.parseInt(sts));
14        System.out.println("sts : " + sts);
15        if(sts.equals("0")){
16            lampu.matikanLampu();
17        }else if(sts.equals("2")){
18            lampu.redupkanLampu();
19        } else{
20            lampu.hidupkanLampu();
21        }
22    }
23 }
24
25
26
```

Output

eclipse-workspace - pbo-module10/src/m10Tugas/AplikasiLampu.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

ActivityLampu.java Lampu.java AplikasiLampu.java package-info.java ActivityLampu.java AplikasiLampu.java Lampu.java

```
1 package m10Tugas;
2
3 import java.util.Scanner;
4
```

Console x

terminated> AplikasiLampu (1) [Java Application] C:\Users\Asus\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.17.0.4.v20220903-1038\jre\bin\javaw.exe (Dec 21, 2022, 4:18:02 PM - 4:18:08 PM) [pid: 5704]

```
sts lampu : 0
Status Lampu = 0
ketikkan
1 untuk menyalakan lampu
0 untuk mematikan lampu
2 untuk merudupkan lampu
1
sts lampu : 1
sts : 1
HidupkanLampu() status lampu : 1
Lampu sudah dinyalakan
***
```

eclipse-workspace - pbo-module10/src/m10Tugas/AplikasiLampu.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

ActivityLampu.java Lampu.java AplikasiLampu.java package-info.java ActivityLampu.java AplikasiLampu.java Lampu.java

```
1 package m10Tugas;
2
3 import java.util.Scanner;
4
```

Console x

terminated> AplikasiLampu (1) [Java Application] C:\Users\Asus\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.17.0.4.v20220903-1038\jre\bin\javaw.exe (Dec 21, 2022, 4:18:16 PM - 4:18:20 PM) [pid: 10356]

```
sts lampu : 0
Status Lampu = 0
ketikkan
1 untuk menyalakan lampu
0 untuk mematikan lampu
2 untuk merudupkan lampu
0
sts lampu : 0
sts : 0
Lampu sudah dalam kondisi mati
```

