

TUGAS 4
PEMROGRAMAN BERORIENTASI OBJEK

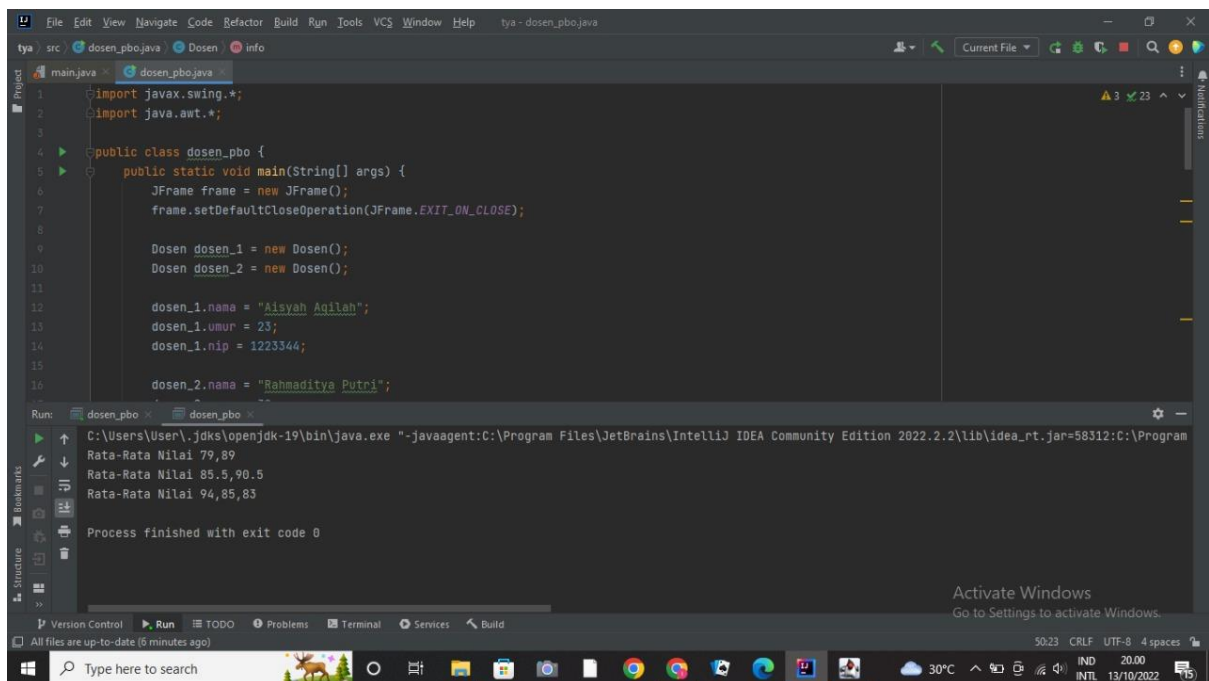


Oleh :
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PROGRAM STUDI MANAJEMEN INFORMATIKA
FAKULTAS VOKASI
UNIVERSITAS NEGERI SURABAYA

2022

1.



```
1 import javax.swing.*;
2 import java.awt.*;
3
4 public class dosen_pbo {
5     public static void main(String[] args) {
6         JFrame frame = new JFrame();
7         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
8
9         Dosen dosen_1 = new Dosen();
10        Dosen dosen_2 = new Dosen();
11
12        dosen_1.nama = "Aisyah Agilah";
13        dosen_1.umur = 23;
14        dosen_1.nip = 1223344;
15
16        dosen_2.nama = "Rahmaditya Putri";
```

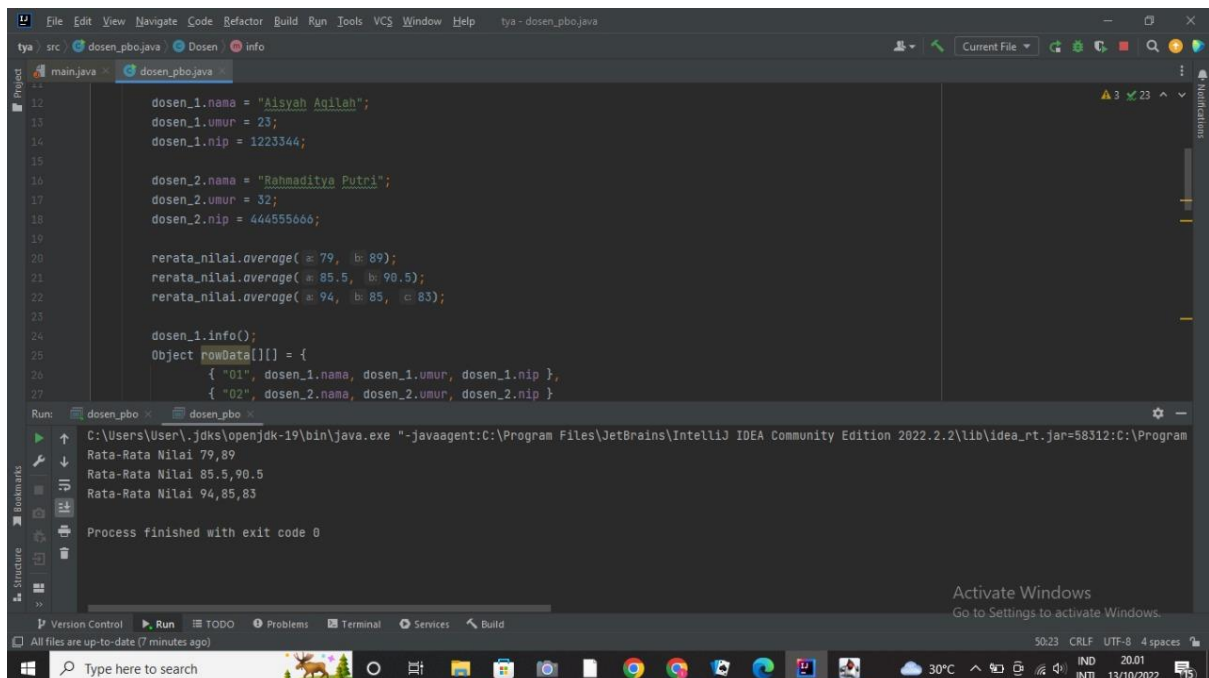
Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin" C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\java.exe

Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90,5
Rata-Rata Nilai 94,85,83

Process finished with exit code 0

Baris 1 & 2 berfungsi untuk mengimport library tabel dari java. Kemudian pada baris 6 terdapat sintax untuk membuat tabel dan di baris 7 berfungsi untuk tabel agar bisa di close. Kemudian pada baris 9 & 10 berfungsi untuk menginisiasi class dosen. Kemudian pada baris 12 – 14 berfungsi untuk mengisi data.



```
15        dosen_1.nip = 1223344;
16
17        dosen_2.nama = "Rahmaditya Putri";
18        dosen_2.umur = 32;
19        dosen_2.nip = 444555666;
20
21        rerata_nilai.average(79, 89);
22        rerata_nilai.average(85.5, 90.5);
23        rerata_nilai.average(94, 85, 83);
24
25        dosen_1.info();
26        Object rowData[][] = {
27            { "01", dosen_1.nama, dosen_1.umur, dosen_1.nip },
28            { "02", dosen_2.nama, dosen_2.umur, dosen_2.nip }
29        };
30    }
```

Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin" C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\java.exe

Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90,5
Rata-Rata Nilai 94,85,83

Process finished with exit code 0

Baris 20 - 22 terdapat class rerata nilai dengan metode average yang berfungsi untuk mengirimkan data nilai.

```
23
24 dosen_1.info();
25 Object rowData[][] = {
26     { "01", dosen_1.nama, dosen_1.umur, dosen_1.nip },
27     { "02", dosen_2.nama, dosen_2.umur, dosen_2.nip }
28 };
29
30 Object columnNames[] = { "#", "Nama", "Umur", "NIP" };
31 JTable table = new JTable(rowData, columnNames);
32
33 JScrollPane scrollPane = new JScrollPane(table);
34 frame.add(scrollPane, BorderLayout.CENTER);
35 frame.setSize(600, 600);
36 frame.setVisible(true);
37
38 }
```

Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin" -Didea.config.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\conf -Didea.copyright.notification=false -Didea.log.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\log -Didea.platform.prefix=JDK -Didea.vendor.id=JetBrains -Djava.awt.headless=true -Djava.class.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin

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Rata-Rata Nilai 94,85,83

Process finished with exit code 0

Baris 24 terdapat class yang memanggil metode info. Kemudian pada baris 25-28 berfungsi untuk mengirimkan data supaya bisa tampil kedalam tabel. Pada baris 30 terdapat syntax untuk membuat kolom dan baris 31 adalah syntax untuk menginisiasi tabel. Baris 33 – 36 berfungsi untuk mengatur tampilan tabel.

```
41 class orang {
42     String nama;
43     int umur;
44 }
45
46 class Dosen extends orang {
47     int nip;
48
49     String info() { return "===DATA DOSEN==="; }
50 }
51
52 }
```

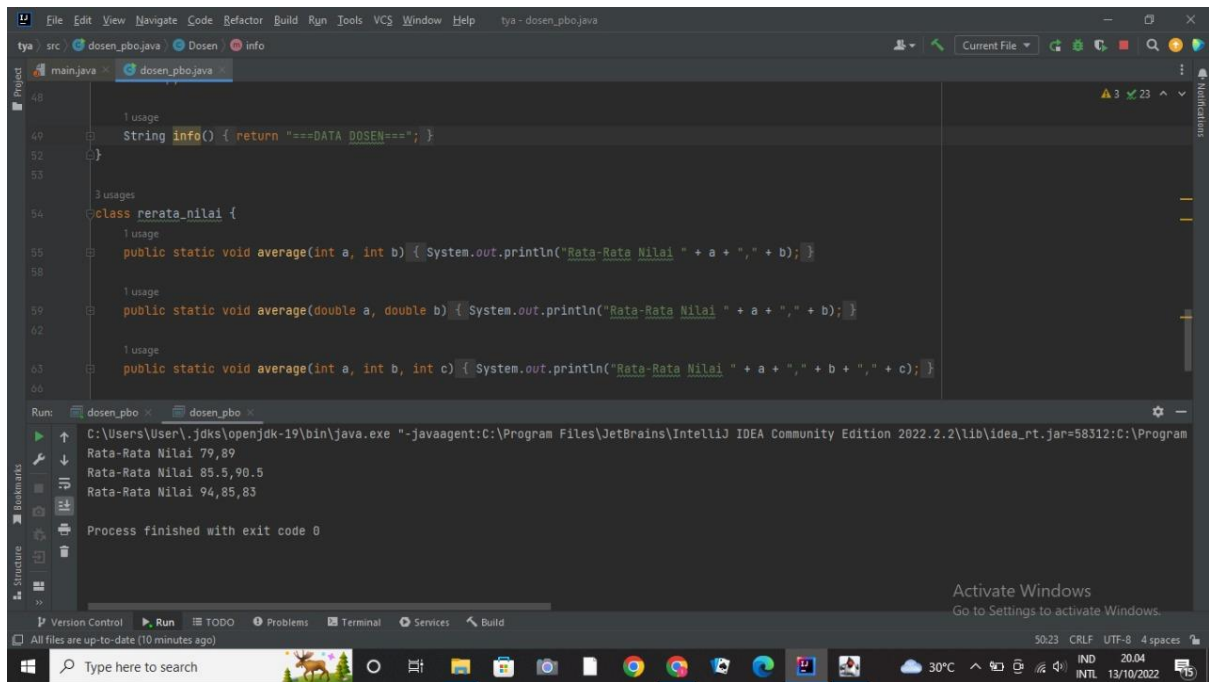
Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin" -Didea.config.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\conf -Didea.copyright.notification=false -Didea.log.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\log -Didea.platform.prefix=JDK -Didea.vendor.id=JetBrains -Djava.awt.headless=true -Djava.class.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin

Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90.5
Rata-Rata Nilai 94,85,83

Process finished with exit code 0

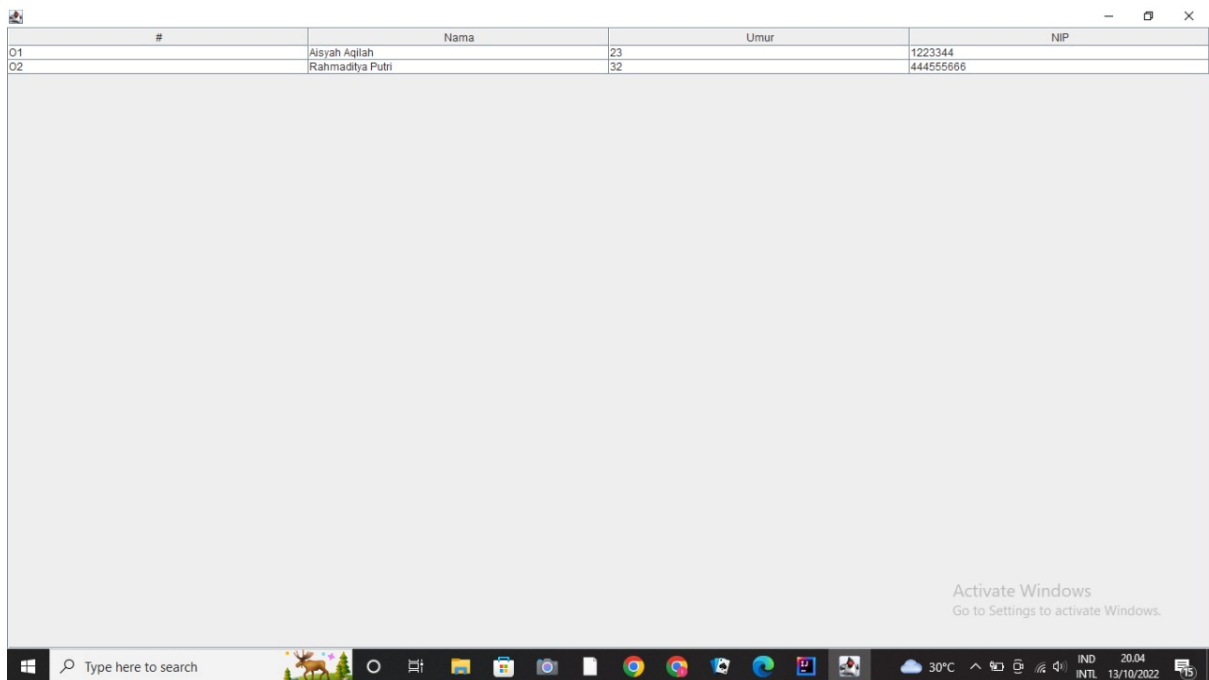
Pada class orang terdapat 2 buah variabel yaitu nama yang tipe datanya string dan umur yang tipe datanya int. Pada class dosen mewarisi class orang dimana class dosen memiliki 1 variabel nip yang bertipe data int dan 1 buah metode info yang mengembalikan string.



```
1 usage
49 String info() { return "===DATA DOSEN==="; }
52 }
53
54 class rerata_nilai {
55     1 usage
56     public static void average(int a, int b) { System.out.println("Rata-Rata Nilai " + a + ", " + b); }
58
59     1 usage
60     public static void average(double a, double b) { System.out.println("Rata-Rata Nilai " + a + ", " + b); }
62
63     1 usage
64     public static void average(int a, int b, int c) { System.out.println("Rata-Rata Nilai " + a + ", " + b + ", " + c); }
66
Run: dosen_pbo x dosen_pbo x
C:\Users\User\jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program
Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90,5
Rata-Rata Nilai 94,85,83
Process finished with exit code 0
```

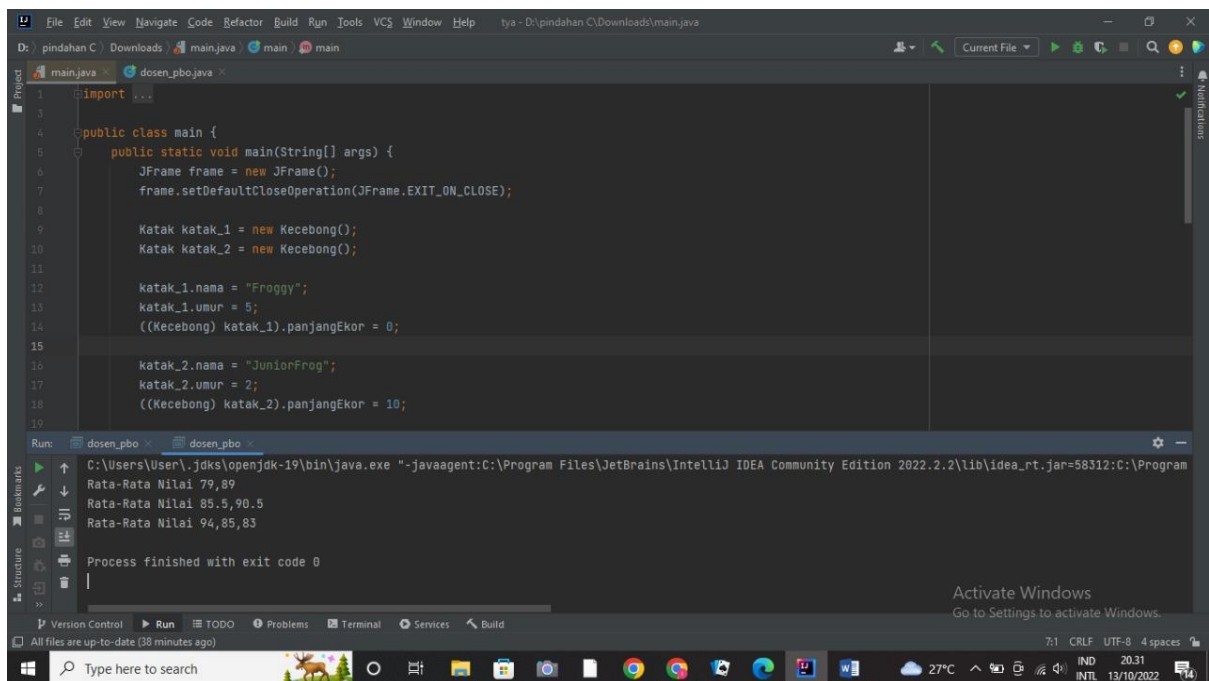
Pada class rerata nilai terdapat 3 metode average yang memiliki tipe data yang berbeda-beda.

Hasil dari program diatas :



#	Nama	Umur	NIP
01	Aisyah Aqilah	23	1223344
02	Rahmadiya Putri	32	444555666

2.



```
1 import ...
2
3
4 public class main {
5     public static void main(String[] args) {
6         JFrame frame = new JFrame();
7         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
8
9         Katak katak_1 = new Kecebong();
10        Katak katak_2 = new Kecebong();
11
12        katak_1.nama = "Froggy";
13        katak_1.umur = 5;
14        ((Kecebong) katak_1).panjangEkor = 0;
15
16        katak_2.nama = "JuniorFrog";
17        katak_2.umur = 2;
18        ((Kecebong) katak_2).panjangEkor = 10;
19    }
20 }
```

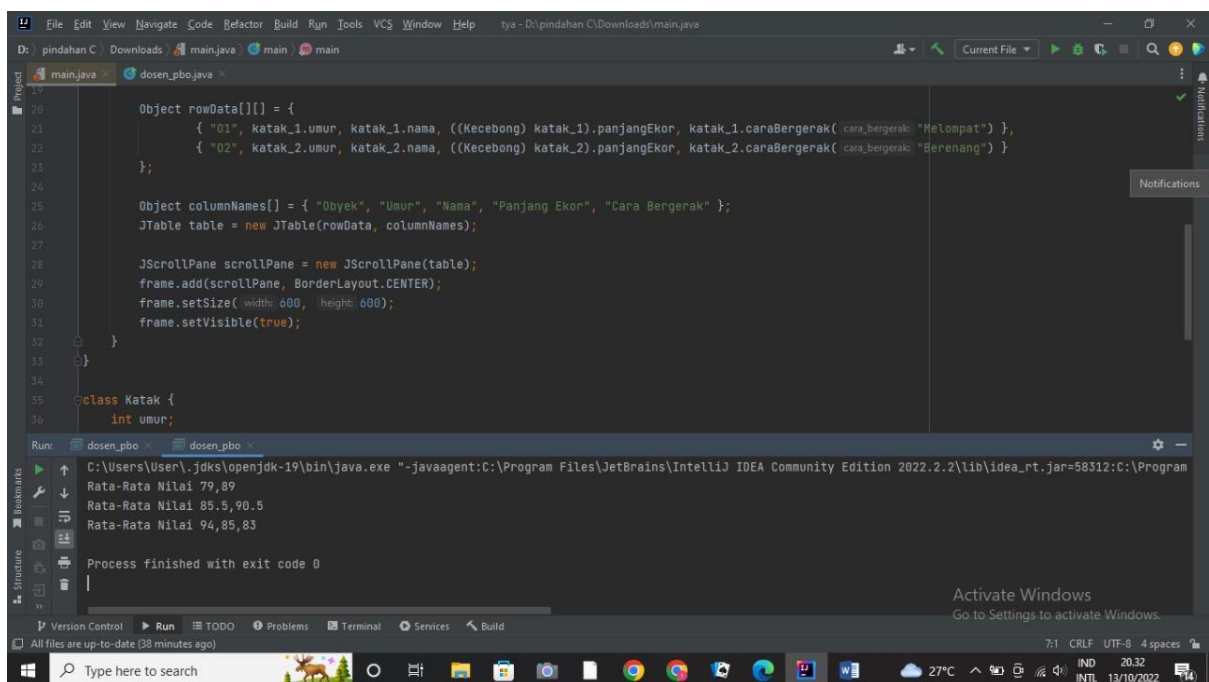
Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin -Dfile.encoding=UTF-8

Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90.5
Rata-Rata Nilai 94,85,83

Process finished with exit code 0

Pada baris 1 & 2 terdapat sintax untuk mengimport tabel dari library java. Kemudian pada baris 6 & 7 berfungsi untuk membuat frame tabel dan tombol close pada tabel. Pada baris 12 – 18 berfungsi untuk mengirimkan data pada class yg sudah diinisiasi.



```
19
20 Object rowData[][] = {
21     { "01", katak_1.umur, katak_1.nama, ((Kecebong) katak_1).panjangEkor, katak_1.caraBergerak( cara_bergerak: "Melompat" ) },
22     { "02", katak_2.umur, katak_2.nama, ((Kecebong) katak_2).panjangEkor, katak_2.caraBergerak( cara_bergerak: "Berenang" ) }
23 };
24
25 Object columnNames[] = { "Objek", "Umur", "Nama", "Panjang Ekor", "Cara Bergerak" };
26 JTable table = new JTable(rowData, columnNames);
27
28 JScrollPane scrollPane = new JScrollPane(table);
29 frame.add(scrollPane, BorderLayout.CENTER);
30 frame.setSize( width: 600, height: 600);
31 frame.setVisible(true);
32 }
33
34
35 class Katak {
36     int umur;
37 }
```

Run: dosen_pbo x dosen_pbo x

C:\Users\User\jdk\openjdk-19\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin -Dfile.encoding=UTF-8

Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90.5
Rata-Rata Nilai 94,85,83

Process finished with exit code 0

Pada baris 20-23 berfungsi untuk mengirimkan data yang nantinya akan ditampilkan pada tabel. Pada baris 25 – 26 berfungsi untuk membuat kolom dan menginisiasi tabel. Baris 28 – 31 berfungsi untuk mengatur tampilan tabel.

The screenshot shows the IntelliJ IDEA IDE with a Java project. The code editor displays two classes: `Katak` and `Kecebong`. `Katak` has attributes `int umur` and `String nama`, and a static method `caraBergerak`. `Kecebong` extends `Katak` and has an attribute `double panjangEkor`. The Run console shows the output of the program, including average scores and the movement method for two objects.

```
class Katak {
    int umur;
    String nama;

    public static String caraBergerak(String cara_bergerak) { return cara_bergerak; }
}

class Kecebong extends Katak {
    double panjangEkor;
}
```

Run: dosen_pbo x dosen_pbo x

```
C:\Users\User\.jdk\openjdk-19\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\lib\idea_rt.jar=58312:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin" -Didea.config.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\conf -Didea.copyright.profiles=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\copyright -Didea.home.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin -Didea.platform.prefix=Java -Didea.vendor.id=JetBrains -Djava.awt.headless=true -Djava.class.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\idea\idea_rt.jar -Djava.library.path=C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\idea\lib\jbr\lib\ -jar C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.2\bin\idea\idea_rt.jar 58312
Rata-Rata Nilai 79,89
Rata-Rata Nilai 85,5,90.5
Rata-Rata Nilai 94,85,83
Process finished with exit code 0
```

Pada baris 35 terdapat class katak yang terdapat 2 variabel nama dengan tipe data string dan umur dengan tipe data int. Baris 39 terdapat metode cara bergerak yang berfungsi untuk mengembalikan nilai yang sudah dikirimkan. Baris 44 – 46 terdapat kelas kecebong yang mewarisi dari kelas katak. Class kecebong memiliki 1 variabel yang tipe datanya double.

Hasil dari program :

The screenshot shows a Java Swing window with a table containing data for two frogs. The table has columns for Object, Age, Name, Tail Length, and Movement Method. The data is as follows:

Objek	Umur	Nama	Panjang Ekor	Cara Bergerak
04	5	Froggy	0.0	Melompat
02	8	Junior Frog	150.0	Berenang