

**PRAKTIKUM**  
**PEMROGRAMAN BERORIENTASI OBJEK**



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**PROGRAM STUDI TEKNIK INFORMATIKA**  
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**TAHUN 2022/2023**

## 8.2 LATIHAN

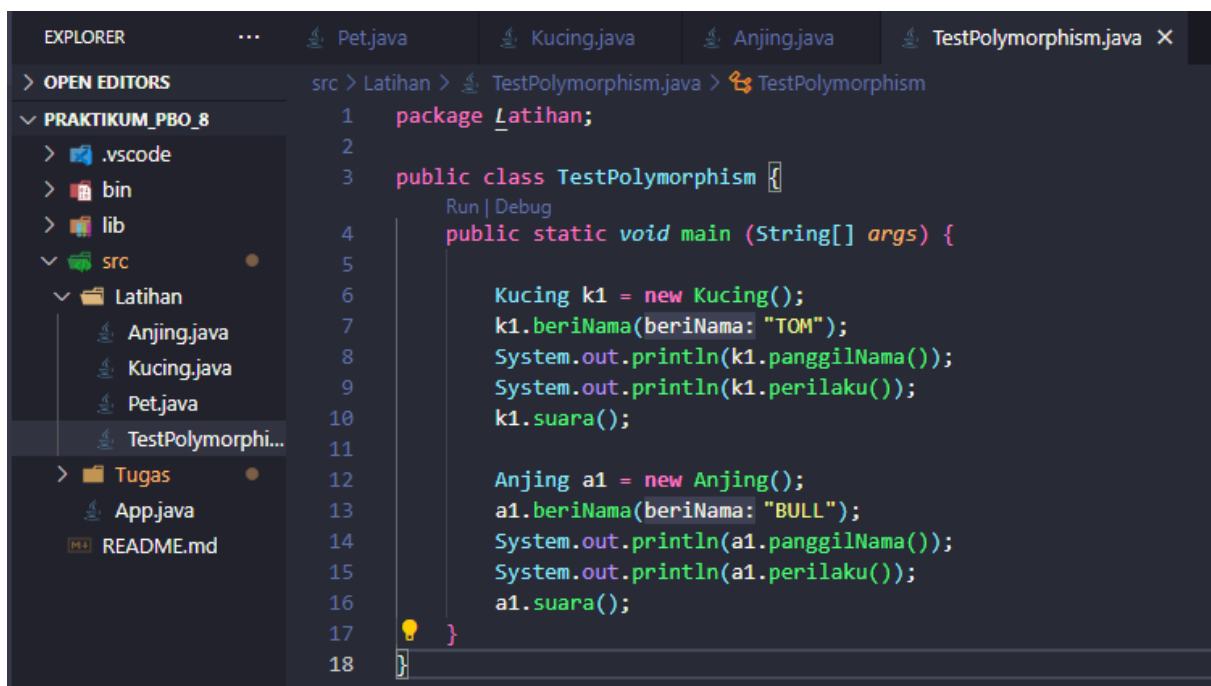
```
1 package Latihan;
2
3 public class Pet {
4     private String nama;
5
6     public void beriNama (String beriNama) {
7         this.nama = beriNama;
8     }
9
10    public String panggilNama() {
11        return this.nama;
12    }
13
14    public String perilaku() {
15        return "Hewan penurut";
16    }
17 }
```

1. Buatlah class Kucing dan Anjing dimana kedua class tersebut melakukan overriding terhadap method perilaku()!
2. Tambahkan satu method pada masing-masing class yang secara khusus hanya berlaku pada masing-masing class tersebut.
3. Buat class TestPolymorphism sehingga keluaran program seperti berikut ini!

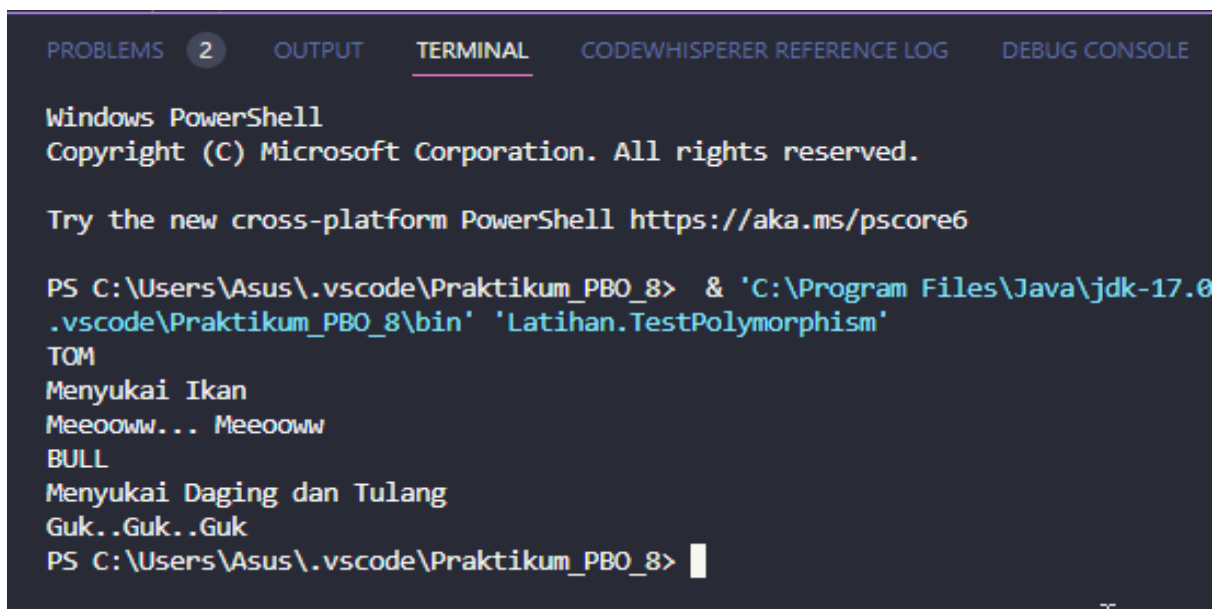
```
1 package Latihan;
2
3 public class Kucing extends Pet {
4
5     public String perilaku() {
6         return "Menyukai Ikan";
7     }
8
9     public void suara() {
10        System.out.println(x: "Meeooww... Meeooww");
11    }
12 }
```



```
1 package Latihan;
2
3 public class Anjing extends Pet {
4
5     public String perilaku() {
6         return "Menyukai Daging dan Tulang";
7     }
8
9     public void suara() {
10        System.out.println(x: "Guk..Guk..Guk");
11    }
12 }
```



```
1 package Latihan;
2
3 public class TestPolymorphism {
4     public static void main (String[] args) {
5
6         Kucing k1 = new Kucing();
7         k1.beriNama(beriNama: "TOM");
8         System.out.println(k1.panggilNama());
9         System.out.println(k1.perilaku());
10        k1.suara();
11
12        Anjing a1 = new Anjing();
13        a1.beriNama(beriNama: "BULL");
14        System.out.println(a1.panggilNama());
15        System.out.println(a1.perilaku());
16        a1.suara();
17    }
18 }
```



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

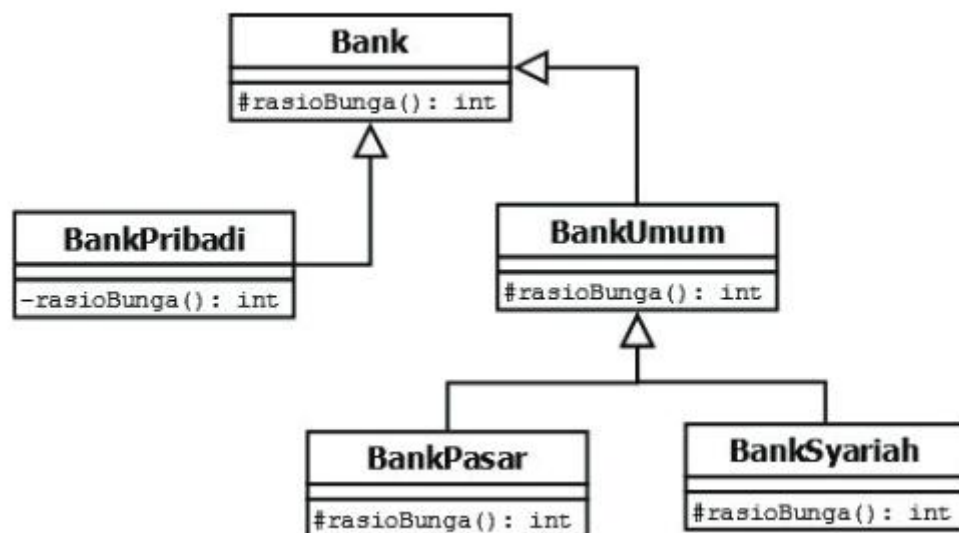
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Asus\.vscode\Praktikum_PBO_8> & 'C:\Program Files\Java\jdk-17.0
.vscod
Praktikum_PBO_8\bin' 'Latihan.TestPolymorphism'
TOM
Menyukai Ikan
Meeooww... Meeooww
BULL
Menyukai Daging dan Tulang
Guk..Guk..Guk
PS C:\Users\Asus\.vscode\Praktikum_PBO_8>
```

## 8.3 TUGAS

### 8.3. TUGAS

1. Lihat kembali Program 4 mengenai overriding, buatlah class Elang yang memiliki method jalan() namun implementasinya berbeda dari kedua class lainnya!
2. Buatlah class baru dengan nama CustomerData, tambahkan variabel nama, alamat, tanggal lahir, pekerjaan dan gaji. Selanjutnya buatlah overloading constructor dari class tersebut.
3. Buatlah class baru dengan method main() yang disertai 10 object customer dari class CustomerData.
4. Buatlah class berdasarkan diagram UML berikut ini! Terapkan teknik polymorphism dan tampilkan hasil output program (screenshot)!



1.

```
EXPLORER  ...  Hewan.java X
> OPEN EDITORS
PRAKTIKUM_PBO_8
  > .vscode
  > bin
  > lib
  > src
  > Latihan
  > Tugas
    > Bank
    > Customer
    Elang.java
    Hewan.java
    Kucing.java
    App.java
    README.md

src > Tugas > Hewan.java > Hewan
1  package Tugas;
2
3  public class Hewan {
4
5      public void jalan() {
6          System.out.println(x: "Hewan bisa berjalan");
7      }
8  }
```

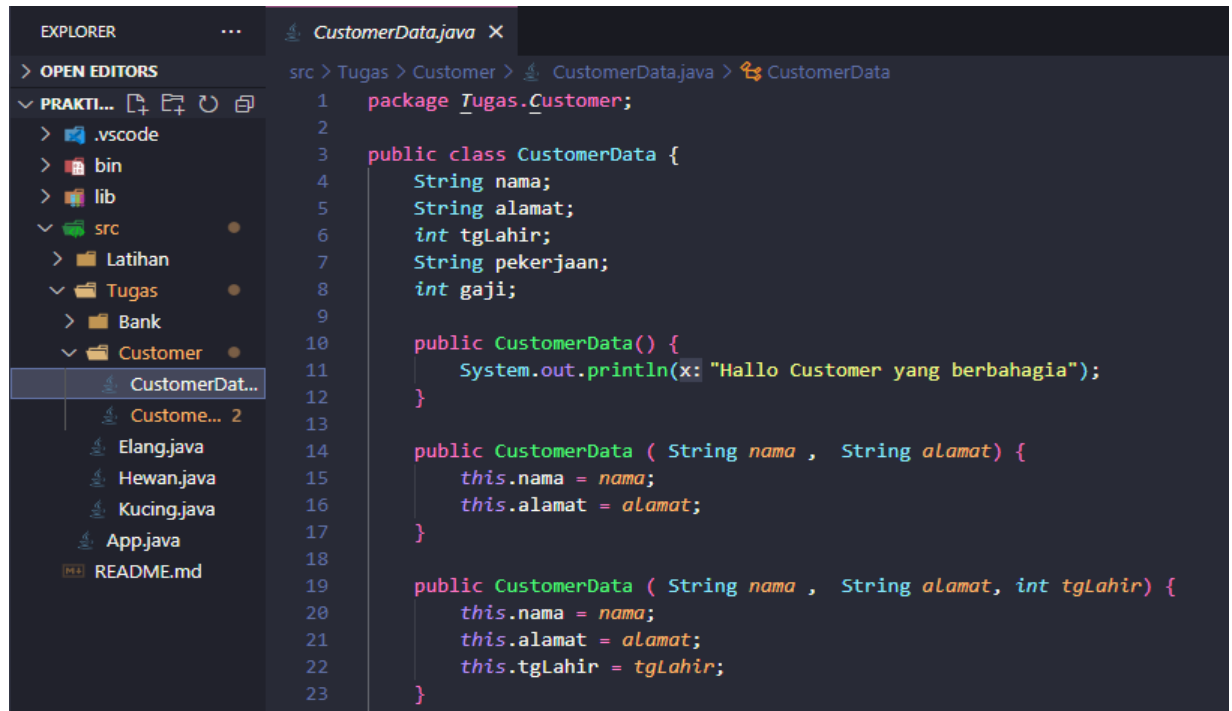
```
EXPLORER  ...  Hewan.java  Kucing.java X
> OPEN EDITORS
PRAKTIKUM_PBO_8
  > .vscode
  > bin
  > lib
  > src
  > Latihan
  > Tugas
    > Bank
    > Customer
    Elang.java
    Hewan.java
    Kucing.java
    App.java
    README.md

src > Tugas > Kucing.java > Kucing
1  package Tugas;
2
3  public class Kucing extends Hewan {
4
5      public void jalan() {
6          System.out.println(x: "Kucing bisa berjalan dan berlari");
7      }
8  }
```

```
EXPLORER  ...  Hewan.java  Elang.java X  Kucing.java
> OPEN EDITORS
PRAKTIKUM_PBO_8
  > .vscode
  > bin
  > lib
  > src
  > Latihan
  > Tugas
    > Bank
    > Customer
    Elang.java
    Hewan.java
    Kucing.java
    App.java
    README.md

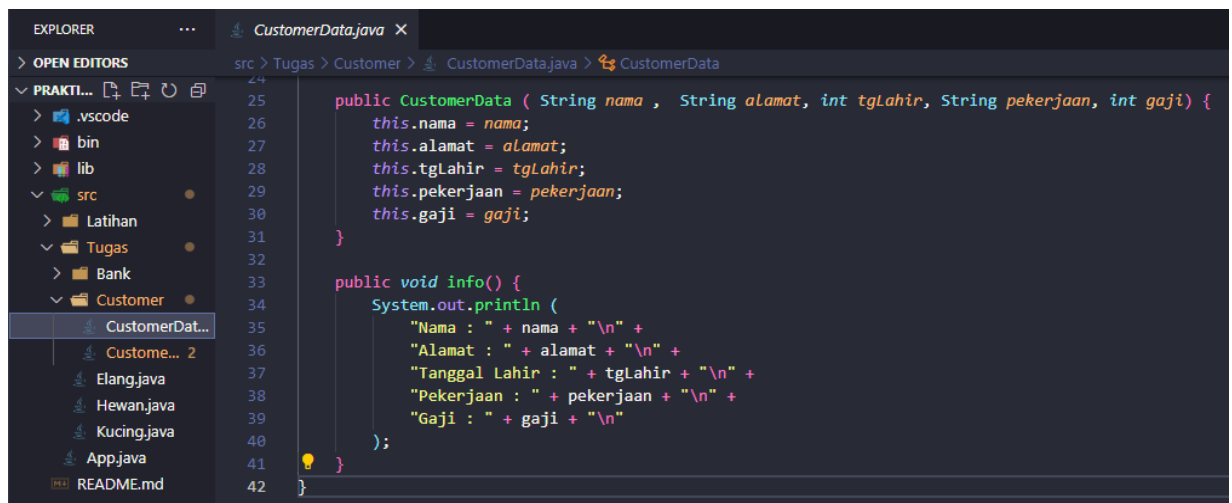
src > Tugas > Elang.java > Elang
1  package Tugas;
2
3  public class Elang extends Hewan {
4
5      public void jalan() {
6          System.out.println(x: "Elang bisa terbang");
7      }
8  }
```

2.



The screenshot shows the VS Code interface with the Explorer on the left and the Editor on the right. The Explorer shows a project structure with folders like .vscode, bin, lib, src, Latihan, Tugas, Bank, and Customer. The Customer folder is expanded, showing CustomerData.java. The Editor shows the code for CustomerData.java, which includes a package declaration, a class declaration, and three constructors.

```
1 package Tugas.Customer;
2
3 public class CustomerData {
4     String nama;
5     String alamat;
6     int tgLahir;
7     String pekerjaan;
8     int gaji;
9
10    public CustomerData() {
11        System.out.println(x: "Hallo Customer yang berbahagia");
12    }
13
14    public CustomerData ( String nama , String alamat) {
15        this.nama = nama;
16        this.alamat = alamat;
17    }
18
19    public CustomerData ( String nama , String alamat, int tgLahir) {
20        this.nama = nama;
21        this.alamat = alamat;
22        this.tgLahir = tgLahir;
23    }
24 }
```



The screenshot shows the VS Code interface with the Explorer on the left and the Editor on the right. The Explorer shows the same project structure as the previous screenshot. The Editor shows the updated code for CustomerData.java, which includes a fourth constructor and an info() method.

```
24
25 public CustomerData ( String nama , String alamat, int tgLahir, String pekerjaan, int gaji) {
26     this.nama = nama;
27     this.alamat = alamat;
28     this.tgLahir = tgLahir;
29     this.pekerjaan = pekerjaan;
30     this.gaji = gaji;
31 }
32
33 public void info() {
34     System.out.println (
35         "Nama : " + nama + "\n" +
36         "Alamat : " + alamat + "\n" +
37         "Tanggal Lahir : " + tgLahir + "\n" +
38         "Pekerjaan : " + pekerjaan + "\n" +
39         "Gaji : " + gaji + "\n"
40     );
41 }
42 }
```

3.

```

1  package Tugas.Customer;
2
3  public class CustomerDemo {
4      Run | Debug
5      public static void main (String[] args) {
6
7          CustomerData cd1 = new CustomerData();
8
9          CustomerData cd2 = new CustomerData(nama: "Alif", alamat: "Sukoharjo");
10         cd2.info();
11
12         CustomerData cd3 = new CustomerData(nama: "Budi", alamat: "Surakarta", tgLahir: 20);
13         cd3.info();
14
15         CustomerData cd4 = new CustomerData(nama: "Caca", alamat: "KarangAnyar", tgLahir: 12, pekerjaan: "Wiraswasta", gaji: 15000000);
16         cd4.info();
17
18         CustomerData cd5 = new CustomerData(nama: "Dedy", alamat: "Klaten");
19         cd5.info();
20
21         CustomerData cd6 = new CustomerData(nama: "ElonMa", alamat: "USA", tgLahir: 30);
22         cd6.info();

```

```

23         CustomerData cd7 = new CustomerData(nama: "Fariz", alamat: "Kudus", tgLahir: 27, pekerjaan: "UI/UX Designer", gaji: 25000000);
24         cd7.info();
25
26         CustomerData cd8 = new CustomerData(nama: "Gua", alamat: "Sragen");
27         cd8.info();
28
29         CustomerData cd9 = new CustomerData(nama: "Hafidz", alamat: "Jogja", tgLahir: 27);
30         cd9.info();
31
32         CustomerData cd10 = new CustomerData(nama: "Ikhsan", alamat: "Pacitan", tgLahir: 10, pekerjaan: "Software Developer", gaji: 40000000);
33         cd10.info();
34     }
35 }
36

```

```
PS C:\Users\Asus\.vscode\Praktikum_PBO_8> & 'C:\Program Files\Java\jdk-17.
' 'C:\Users\Asus\.vscode\Praktikum_PBO_8\bin' 'Tugas.Customer.CustomerDemo'
Hallo Customer yang berbahagia
Nama : Alif
Alamat : Sukoharjo
Tanggal Lahir : 0
Pekerjaan : null
Gaji : 0

Nama : Budi
Alamat : Surakarta
Tanggal Lahir : 20
Pekerjaan : null
Gaji : 0

Nama : Caca
Alamat : KarangAnyar
Tanggal Lahir : 12
Pekerjaan : Wiraswasta
Gaji : 15000000

Nama : Dedy
Alamat : Klaten
Tanggal Lahir : 0
Pekerjaan : null
Gaji : 0

Nama : ElonMa
Alamat : USA
Tanggal Lahir : 30
Pekerjaan : null
Gaji : 0
```

```
Pekerjaan : null
Gaji : 0

Nama : Fariz
Alamat : Kudus
Tanggal Lahir : 27
Pekerjaan : UI/UX Designer
Gaji : 25000000

Nama : Gua
Alamat : Sragen
Tanggal Lahir : 0
Pekerjaan : null
Gaji : 0

Nama : Hafidz
Alamat : Jogja
Tanggal Lahir : 27
Pekerjaan : null
Gaji : 0

Nama : Ikhsan
Alamat : Pacitan
Tanggal Lahir : 10
Pekerjaan : Software Developer
Gaji : 40000000

PS C:\Users\Asus\.vscode\Praktikum_PBO_8> |
```



4.

The screenshot shows the VS Code editor with the Explorer sidebar on the left and the Editor pane on the right. The Explorer sidebar shows the file structure with the 'Bank' folder selected under 'Tugas'. The Editor pane displays the 'Bank.java' file with the following code:

```
src > Tugas > Bank > Bank.java > Bank
1 package Tugas.Bank;
2
3 public class Bank {
4
5     protected int rasioBunga() {
6         return 1;
7     }
8 }
```

The screenshot shows the VS Code editor with the Explorer sidebar on the left and the Editor pane on the right. The Explorer sidebar shows the file structure with the 'Bank' folder selected under 'Tugas'. The Editor pane displays the 'BankPribadi.java' file with the following code:

```
src > Tugas > Bank > BankPribadi.java > BankPribadi
1 package Tugas.Bank;
2
3 public class BankPribadi extends Bank {
4
5     private int rasioBunga() {
6         return 2;
7     }
8 }
```

EXPLORER ... Bank.java BankUmum.java X

> OPEN EDITORS

▼ PRAKTIKUM\_PBO\_8

- > .vscode
- > bin
- > lib
- ▼ src
  - > Latihan
  - ▼ Tugas
    - ▼ Bank
      - Bank.java
      - BankPasar.java
      - BankPrib... 2
      - BankSyariah.j...
      - BankUmum.ja...

```
src > Tugas > Bank > BankUmum.java > BankUmum
1 package Tugas.Bank;
2
3 public class BankUmum extends Bank {
4
5     protected int rasioBunga() {
6         return 5;
7     }
8 }
```

EXPLORER ... Bank.java BankPasar.java X

> OPEN EDITORS

▼ PRAKTI... [Icons]

- > .vscode
- > bin
- > lib
- ▼ src
  - > Latihan
  - ▼ Tugas
    - ▼ Bank
      - Bank.java
      - BankPasar.java
      - BankPrib... 2
      - BankSyariah.j...
      - BankUmum.ja...

```
src > Tugas > Bank > BankPasar.java > BankPasar
1 package Tugas.Bank;
2
3 public class BankPasar extends BankUmum {
4
5     protected int rasioBunga() {
6         return 3;
7     }
8 }
```

EXPLORER ... Bank.java BankSyariah.java X

> OPEN EDITORS

▼ PRAKTIKUM\_PBO\_8

- > .vscode
- > bin
- > lib
- ▼ src
  - > Latihan
  - ▼ Tugas
    - ▼ Bank
      - Bank.java
      - BankPasar.java
      - BankPrib... 2
      - BankSyariah.j...
      - BankUmum.ja...

```
src > Tugas > Bank > BankSyariah.java > BankSyariah
1 package Tugas.Bank;
2
3 public class BankSyariah extends BankUmum {
4
5     protected int rasioBunga() {
6         return 4;
7     }
8 }
```