



unindra
universitas indraprasta PGRI

ANTARMUKA

INTERFACE

PERTEMUAN 14

INTERFACE

- Interface adalah *blue print* dari class. Isi method-nya kosong dan nanti akan diimplementasikan pada class lain.
- Interface mendefinisikan aturan perilaku yang dapat di implementasikan oleh kelas manapun.
- Interface mendefinisikan satu set method tanpa menyediakan implementasinya.
- Setiap kelas yang mengimplementasikan interface akan terikat oleh interface tersebut untuk mengimplementasikan semua method yang ada di dalam interface.

- Secara substansi Interface merupakan kumpulan dari method abstrak dan konstanta.
- Interface memiliki kemiripan dengan kelas abstrak karena keduanya memuat method abstrak.
- Secara umum, *interface* berfungsi sebagai **penghubung** antara sesuatu yang ‘abstrak’ dengan sesuatu yang nyata.
- Untuk menjadikan sebuah kelas mengimplementasikan interface maka ditambahkan keyword **implements** kemudian dilanjutkan nama interface.
- Method interface tersebut harus diimplementasikan dalam kelas turunannya tidak boleh tidak.

Contoh Program Interface

The image displays a Java IDE with three windows showing code and output:

- Left Window (PersegiPanjang.java):** Shows the implementation of the `PersegiPanjang` class, which implements the `bangundatar` interface. The code includes attributes `panjang` and `lebar`, and methods `setPanjang`, `getPanjang`, `setLebar`, `getLebar`, `getKel`, `getLuas`, and `hitung`.
- Top Right Window (bangundatar.java):** Shows the definition of the `bangundatar` interface with methods `getLuas()` and `getKel()`.
- Middle Window (testinterface.java):** Shows a test class `testinterface` with a `main` method that creates a `PersegiPanjang` object, sets its dimensions to 10 and 5, and prints its `panjang`, `Luas`, and `Keliling`.
- Bottom Right Window (Terminal Window):** Shows the output of the test program: `panjang = 10.0`, `Luas = 50.0`, and `Keliling = 30.0`.

```
public class PersegiPanjang implements bangundatar{
    private double panjang, lebar;

    public void setPanjang(double p){
        panjang = p;
    }

    public double getPanjang(){
        return panjang;
    }

    public void setLebar(double lebar){
        this.lebar = lebar;
    }

    public double getLebar(){
        return lebar;
    }

    public double getKel(){
        return 2 * (panjang + lebar);
    }

    public double getLuas(){
        return panjang * lebar;
    }

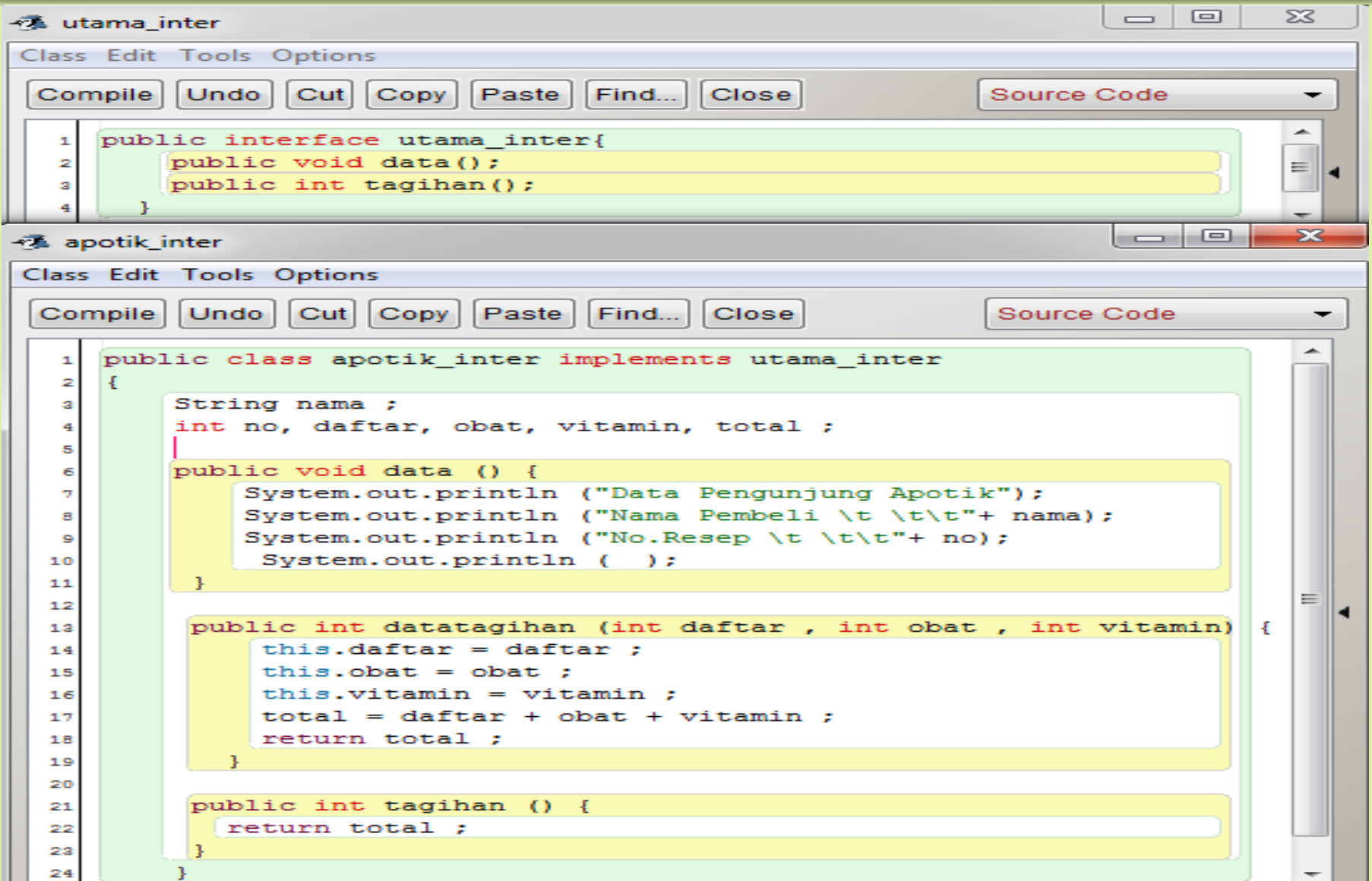
    public void hitung(){
        System.out.println("hitung");
    }
}

public interface bangundatar{
    public double getLuas();
    public double getKel();
}

public class testinterface{
    public static void main(String[] unindra){
        PersegiPanjang pp = new PersegiPanjang();
        pp.setPanjang(10);
        pp.setLebar(5);
        System.out.println("panjang = " + pp.getPanjang());
        System.out.println("Luas = " + pp.getLuas());
        System.out.println("Keliling = " + pp.getKel());
    }
}

panjang = 10.0
Luas = 50.0
Keliling = 30.0
```

Latihan Program Interface



The image shows two windows from a Java IDE. The top window, titled 'utama_inter', contains the definition of a public interface named 'utama_inter'. It has two methods: 'data()' which returns void, and 'tagihan()' which returns an int. The bottom window, titled 'apotik_inter', contains the implementation of a public class named 'apotik_inter' which implements the 'utama_inter' interface. The class has three attributes: 'nama' (String), 'no' (int), 'daftar' (int), 'obat' (int), 'vitamin' (int), and 'total' (int). It implements the 'data()' method by printing the pharmacy name, buyer name, and prescription number. It implements the 'datatagihan()' method by setting the instance variables and returning their sum. It also implements the 'tagihan()' method by returning the 'total' attribute.

```
1 public interface utama_inter{
2     public void data();
3     public int tagihan();
4 }
```

```
1 public class apotik_inter implements utama_inter
2 {
3     String nama ;
4     int no, daftar, obat, vitamin, total ;
5
6     public void data () {
7         System.out.println ("Data Pengunjung Apotik");
8         System.out.println ("Nama Pembeli \t \t\t"+ nama);
9         System.out.println ("No.Resep \t \t\t"+ no);
10        System.out.println ( );
11    }
12
13    public int datatagihan (int daftar , int obat , int vitamin) {
14        this.daftar = daftar ;
15        this.obat = obat ;
16        this.vitamin = vitamin ;
17        total = daftar + obat + vitamin ;
18        return total ;
19    }
20
21    public int tagihan () {
22        return total ;
23    }
24 }
```

poli_inter

Class Edit Tools Options

Compile Undo Cut Copy Paste Find... Close

Source Code

```
1 public class poli_inter implements utama_inter
2 {
3     String nama ;
4     int no, daftar, obat, vitamin, total ;
5
6     public void data () {
7         System.out.println ("Data Pengunjung Poly");
8         System.out.println ("Nama Pasien \t \t\t"+ nama);
9         System.out.println ("No.Pasien \t \t\t"+ no);
10    }
11
12    public int datatagihan (int daftar , int obat , int vitamin) {
13        this.daftar = daftar ;
14        this.obat = obat ;
15        this.vitamin = vitamin ;
16        total = daftar + obat + vitamin ;
17        return total ;
18    }
19
20    public int tagihan () {
21        return total ;
22    }
23 }
```

main_inter

Class Edit Tools Options

Compile Undo Cut Copy Paste Find... Close Source C

```
1 public class main_inter {
2     public static void main (String [] ww) {
3         apotik_inter b1 = new apotik_inter () ;
4         b1.nama = "Anisa" ;
5         b1.no = 90 ;
6         b1.data () ;
7         b1.datatagihan (25000,50000,10000);
8         b1.tagihan () ;
9
10        poli_inter b2 = new poli_inter () ;
11        b2.nama = "Andi" ;
12        b2.no = 229045 ;
13        b2.data () ;
14        b2.datatagihan (25000,50000,10000);
15        b2.tagihan () ;
16
17    }
18 }
```

Class compiled - no syntax errors

saved