Overloading dan Overriding

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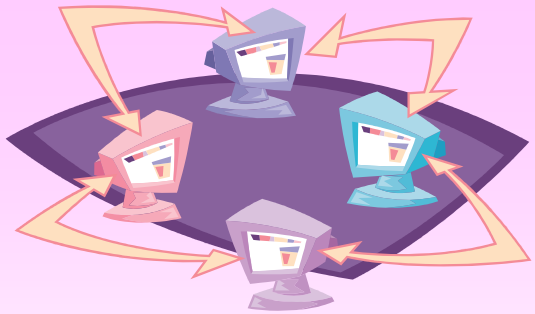
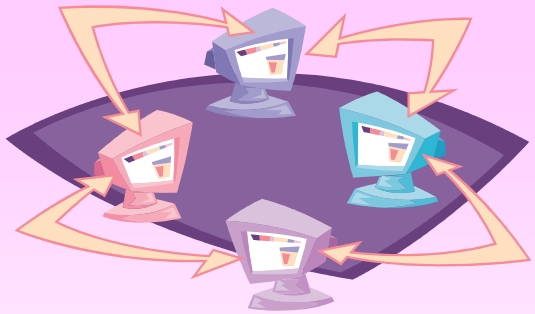


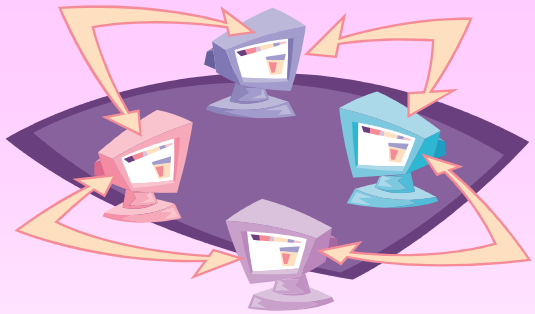
Pokok Bahasan

- Overloading
- Overriding
- Aturan tentang Overriden method



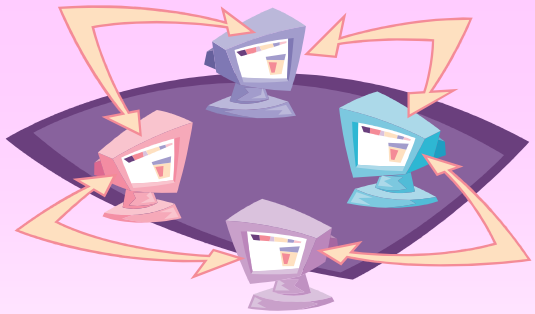
Overloading

- Overloading adalah suatu keadaan dimana beberapa method memiliki nama yang sama tetapi fungsionalitasnya berbeda
- Contoh :
  - titik(x,y);
  - titik(x,y,z);
- Ciri Overloading :
  - Nama method harus sama
  - Daftar parameter harus berbeda
  - Return type boleh sama, boleh berbeda



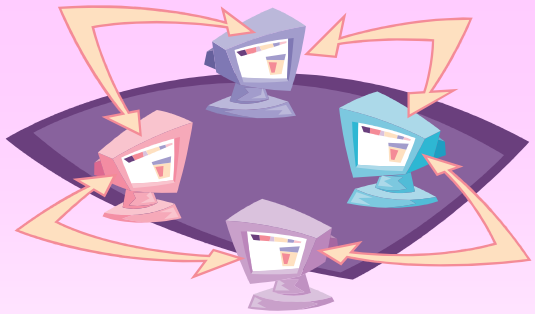
Overriding

- Overriding menyatakan suatu keadaan dimana method pada subclass menolak method pada parent class-nya.
- Ciri dari overriding :
  - Nama method harus sama
  - Daftar parameter harus sama
  - Return type harus sama



Contoh overriding

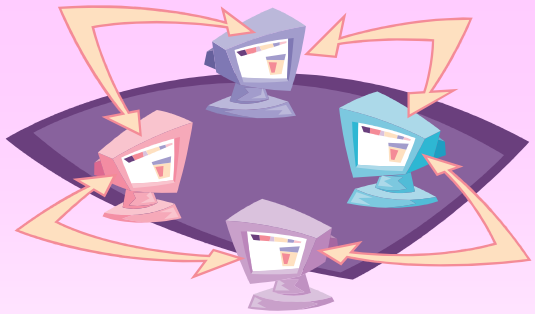
```
class Parent {
   public void Info() {
       System.out.println(“ini class parent”);
   }
class Child extends Parent {
   public void Info() {
 System.out.println(“ini class child”);
   }
```



Peraturan pada Overriding

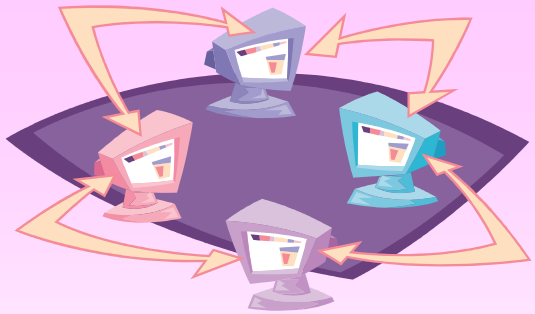
- Method yang terkena Override (overriden method) tidak boleh mempunyai modifier yang lebih luas aksesnya daripada method yang meng-override (overriding method).

Percobaan



Melakukan Overloading pada Method

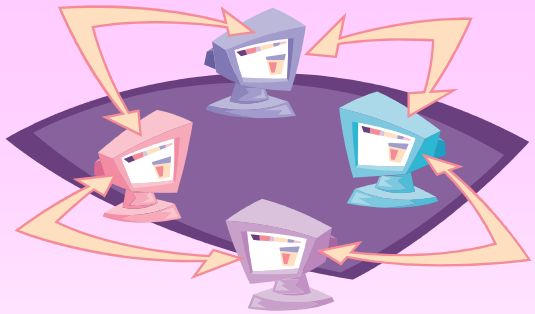
```
import java.awt.Point;
public class Segiempat {
int x1 = 0;
int y1 = 0;
int x2 = 0;
int y2 = 0;
public void buatSegiempat(int x1, int y1, int x2, int y2) {
this.x1 = x1;
this.y1 = y1;
this.x2 = x2;
this.y2 = y2;
}
public void buatSegiempat(Point topLeft, Point bottomRight) {
x1 = topLeft.x;
y1 = topLeft.y;
x2 = bottomRight.x;
y2 = bottomRight.y;
}
public void buatSegiempat(Point topLeft, int w, int h) {
x1 = topLeft.x;
y1 = topLeft.y;
x2 = (x1 + w);
y2 = (y1 + h);
}
```



Melakukan Overloading pada Method

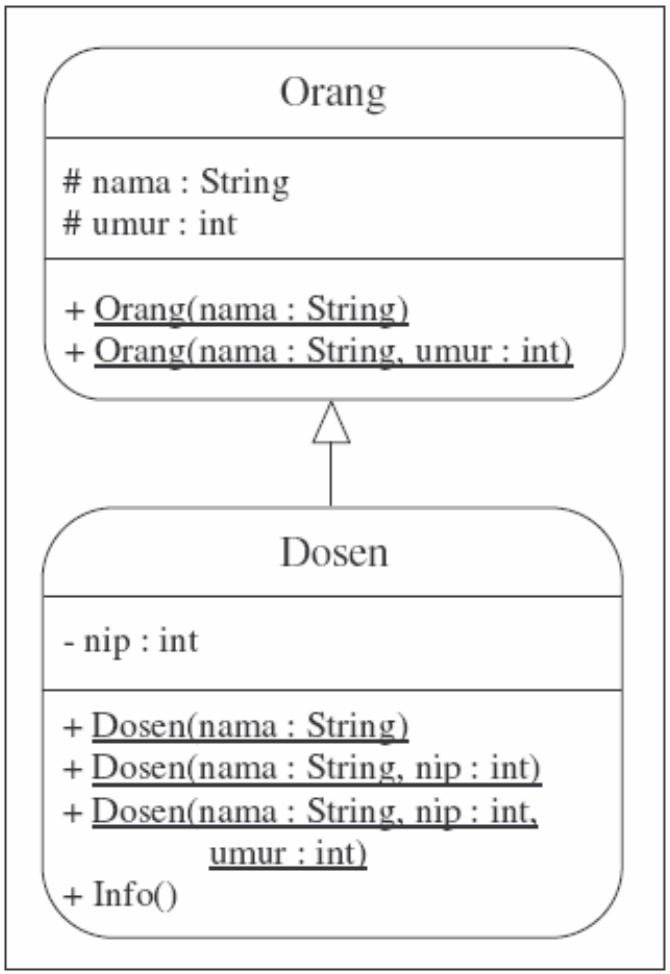
```
void cetakSegiempat(){
System.out.print("Segiempat: <" + x1 + ", " + y1);
System.out.println(", " + x2 + ", " + y2 + ">");
}
public static void main(String[] arguments) {
Segiempat rect = new Segiempat();
System.out.println("Buat segiempat dengan koordinat (25,25)
dan (50,50)");
rect.buatSegiempat(25, 25, 50, 50);
rect.cetakSegiempat();
System.out.println();
System.out.println("Buat segiempat dengan point (10,10) dan
point (20,20):");
rect.buatSegiempat(new Point(10,10), new Point(20,20));
rect.cetakSegiempat();
System.out.println();
System.out.print("Buat segiempat dengan 1 point (10,10),
koodinat (50,50)");
rect.buatSegiempat(new Point(10,10), 50, 50);
rect.cetakSegiempat();
}
}
```

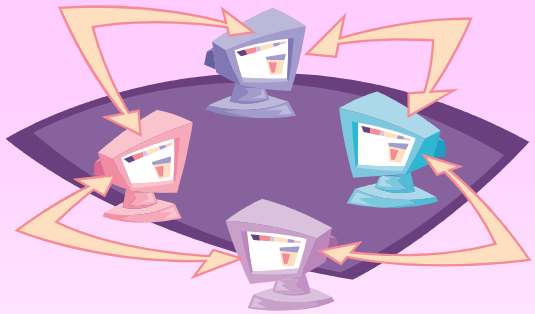
Latihan



Mengimplementasikan UML Class Diagram pada Program

- Implementasikan UML Class diagram berikut :





Menguji UML Class Diagram pada Program

```
public class TesLatihan {
    public static void main(String args[]) {
        System.out.println("Masukkan identitas dosen 1 : Agus");
        Dosen dosen1=new Dosen("Agus");
        System.out.println("Masukkan identitas dosen 2 : Budi, NIP. 1458");
        Dosen dosen2=new Dosen("Budi", 1458);
        System.out.println("Masukkan identitas dosen 3 : Iwan,NIP. 1215, umur 47");
        Dosen dosen3=new Dosen("Iwan", 1215, 47);
        System.out.println();
        dosen1.Info();
        System.out.println();
        dosen2.Info();
        System.out.println();
        dosen3.Info();
    }
}
```