LAPORAN TEORI PEMOGRAMAN BERBASIS OBJECT

[Inheritance 2**]**

Diajukan Untuk Memenuhi Tugas Mata Kuliah Pemograman Berbasis Object

Semester Ganjil Tahun Akademik 2021/2022

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D4 TEKNIK INFORMATIKA

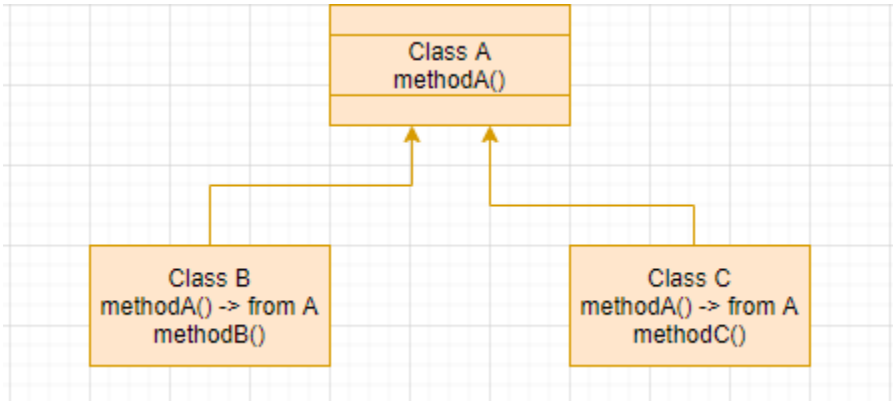
TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG

2021

Carilah sebuah studi kasus dari hierarchical dan hybrid inheritance, kemudian gambarkan UML class diagramnya.

- ✓ Hierarchical Inheritance



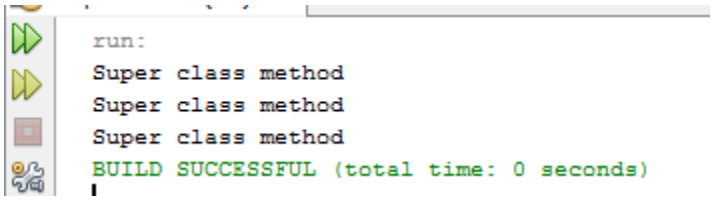
- Kode program

```
 */
package teori7;

/**
 *
 * @author SMK TELKOM
 */
public class ClassA {
    public void methodA()
    {
        System.out.println("Super class method");
    }
}
```

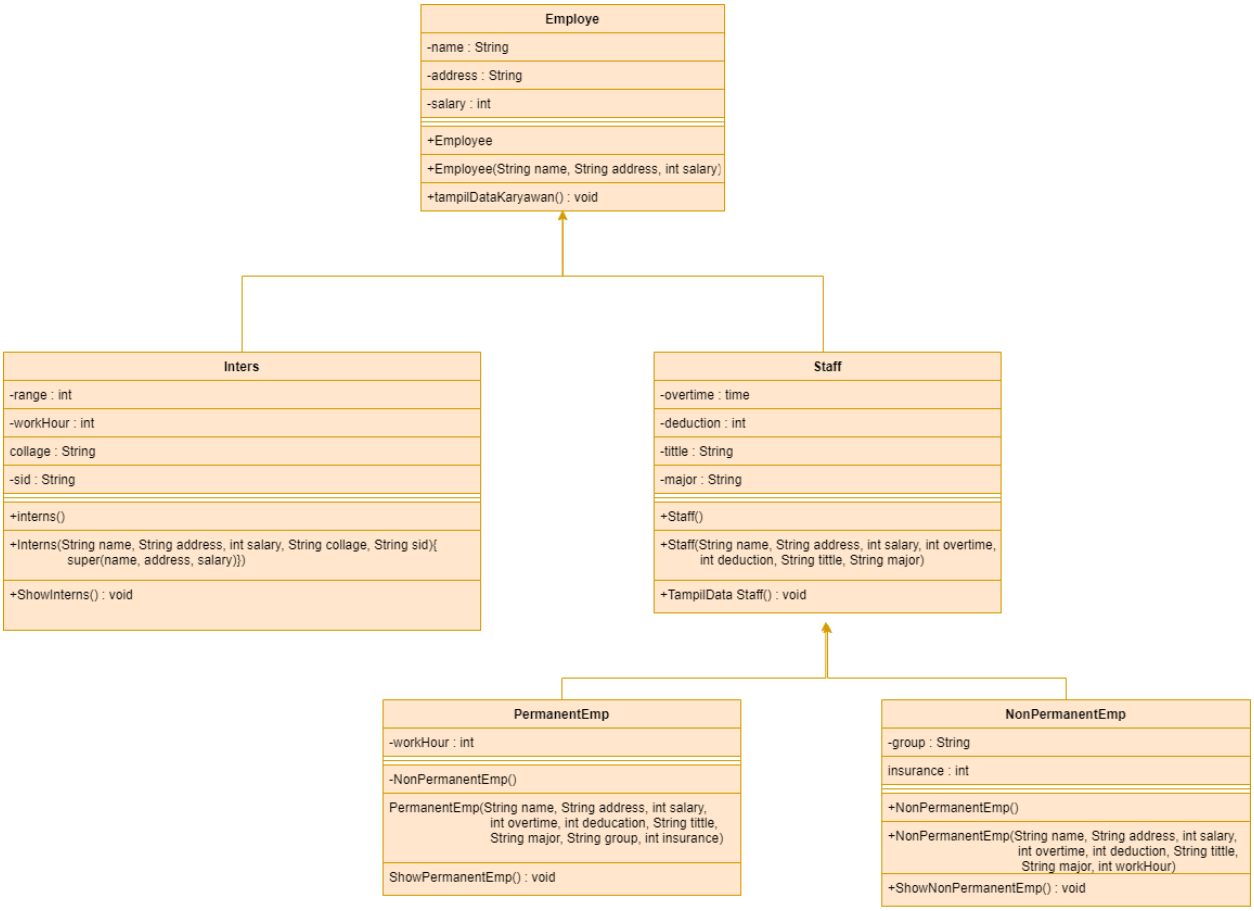
```
package teori7;

/**
 *
 * @author SMK TELKOM
 */
public class ClassB extends ClassA{
    public void methodB()
    {
        System.out.println("Sub class Method B");
    }
}
```

```
 */
package teori7;

/**
 *
 * @author SMK TELKOM
 */
public class ClassC extends ClassB{
    public void methodC(){
        System.out.println("Sub class Method C");
    }
    public static void main(String args[]){
        ClassA obj1 = new ClassA();
        ClassB obj2 = new ClassB();
        ClassC obj3 = new ClassC();
        obj1.methodA(); //calling super class method
        obj2.methodA(); //calling A method from subclass object
        obj3.methodA(); //calling A method from subclass object
    }
}
```

- Hasilnya



✓ Hybrid Inheritance



- Kode program
  - Class Employe

```java
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class Employee {
    public String name, address;
    public int salary;

    public Employee(){
    }
    public Employee(String name, String address, int salary){
        this.name = name;
        this.address = address;
        this.salary = salary;
    }
    public void tampilDataKaryawan(){
        System.out.println("Name     : "+name);
        System.out.println("Address  : "+name);
        System.out.println("Salary   : "+name);
    }
}
```

- Class Staff

```java
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class Staff extends Employee{
    public int overtime, deduction;
    String tittle, major;

    public Staff(){
    }
    public Staff(String name, String address, int salary, int overtime,int deduction, String tittle, String major){
        super(name, address, salary);
        this.overtime = overtime;
        this.deduction = deduction;
        this.tittle = tittle;
        this.major = major;
    }
    public void TampilDataStaff(){
        super.tampilDataKaryawan();
        System.out.println("Major      : "+major);
        System.out.println("Tittle     : "+tittle);
        System.out.println("Overtime   : "+overtime);
        System.out.println("Deduction  : "+deduction);
        System.out.println("Total Slary: "+(salary+overtime-deduction));
    }
}
```

- Class PermanentEmp

```java
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class PermanentEmp extends Staff{
    public String group;
    public int insurance;

    public PermanentEmp(){
    }
    public PermanentEmp(String name, String address, int salary, int overtime,int deduction, String tittle,
            String major, String group, int insurance){
        super(name, address, salary, deduction, overtime, tittle, major);
        this.group = group;
        this.insurance = insurance;
    }
    public void ShowPermanentEmp(){
        System.out.println("**************Permanent Employee Data**************");
        super.TampilDataStaff();
        System.out.println("Group           : "+group);
        System.out.println("Insurance       : "+insurance);
        System.out.println("New Salary      : "+(salary+overtime-deduction-insurance));
    }
}
```

- Class NonPermanentEmp

```
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class NonPermanentEmp extends Staff{
    public int workHour;
    public NonPermanentEmp(){
    }
    public NonPermanentEmp(String name, String address, int salary, int overtime,int deduction, String tittle,
            String major,int workHour){
        super(name, address, salary, overtime, deduction, tittle, major);
        this.workHour = workHour;
    }
    public void ShowNonPermanentEmp(){
        System.out.println("***************Non-Permanent Employee Data***************");
        super.TampilDataStaff();
        System.out.println("Total Work Hour : "+workHour);
        System.out.println("Net Salary      : "+(salary*workHour+overtime-deduction));
    }
}
```

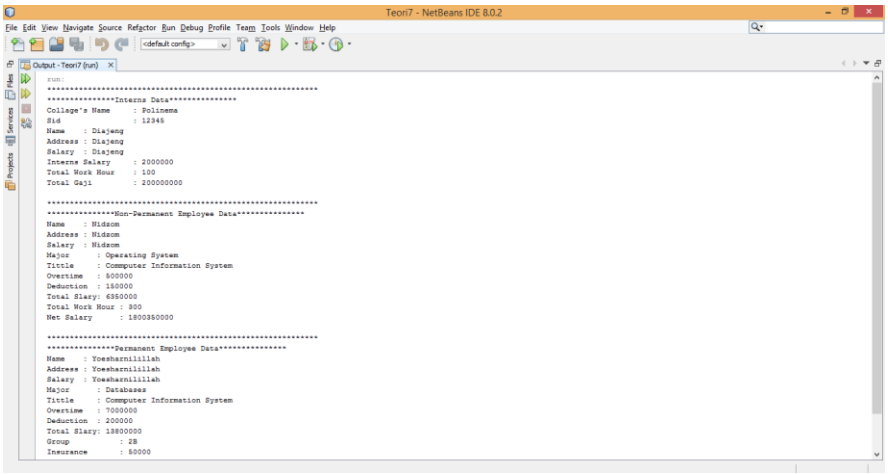
- Class Interns

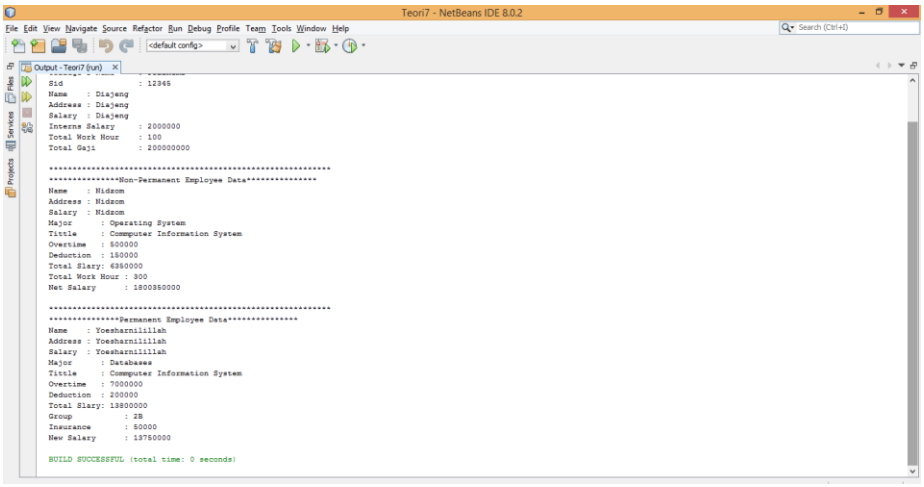
```
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class Interns extends Employee{
    public int range = 3000000, workHour = 100;
    public String collage, sid;
    public Interns(){
    }
    public Interns(String name, String address, int salary, String collage, String sid){
        super(name, address, salary);
        this.collage = collage;
        this.sid = sid;
    }
    public void ShowInterns(){
        System.out.println("***************Interns Data***************");
        System.out.println("Collage's Name      : "+collage);
        System.out.println("Sid                 : "+sid);
        super.tampilDataKaryawan();
        System.out.println("Interns Salary      : "+(super.salary - range));
        System.out.println("Total Work Hour     : "+workHour);
        System.out.println("Total Gaji          : "+(super.salary - range)*workHour);

    }
}
```

- Class Main Hybrid

```java
package Teori7tg2;

/**
 *
 * @author SMK TELKOM
 */
public class Hybrid {
    public static void main(String[] args){
        Interns i = new Interns("Diajeng", "Jl.Kapi Pramuja Raya 1",5000000,"Polinema","12345");
        System.out.println("************************************************************");
        i.ShowInterns();
        System.out.println("");

        NonPermanentEmp nEmp = new NonPermanentEmp("Nidzom", "Jl.Kapi Minda 20", 6000000, 500000, 150000,
                "Commputer Information System","Operating System", 300);
        System.out.println("************************************************************");
        nEmp.ShowNonPermanentEmp();
        System.out.println("");

        PermanentEmp pEmp = new PermanentEmp("Yoesharnilillah", "Jl.Kapi Sraba 13",7000000,200000,7000000,
                "Commputer Information System","Databases","2B",50000);
        System.out.println("************************************************************");
        pEmp.ShowPermanentEmp();
        System.out.println("");
    }
}
```

- Hasilnya




Teori7 - NetBeans IDE 8.0.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
<default config>
Output - Teori7 (run)
Sid : 12345
Name : Diajeng
Address : Diajeng
Salary : Diajeng
Interns Salary : 2000000
Total Work Hour : 100
Total Gaji : 200000000
**********Non-Permanent Employee Data**********
Name : Nidzom
Address : Nidzom
Salary : Nidzom
Major : Operating System
Tittle : Computer Information System
Overtime : $00000
Deduction : 150000
Total Slary: 6350000
Total Work Hour : 300
Net Salary : 1800350000
**********Permanent Employee Data**********
Name : Yoesharnilillah
Address : Yoesharnilillah
Salary : Yoesharnilillah
Major : Databases
Tittle : Computer Information System
Overtime : 7000000
Deduction : 200000
Total Slary: 13800000
Group : 2B
Insurance : 50000
New Salary : 13750000
BUILD SUCCESSFUL (total time: 0 seconds)