



Artificial Intelligence and Data Science Department.

OOPM / Odd Sem 2021-22 / Experiment.

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47 / D6AD.

EXPERIMENT - 6.

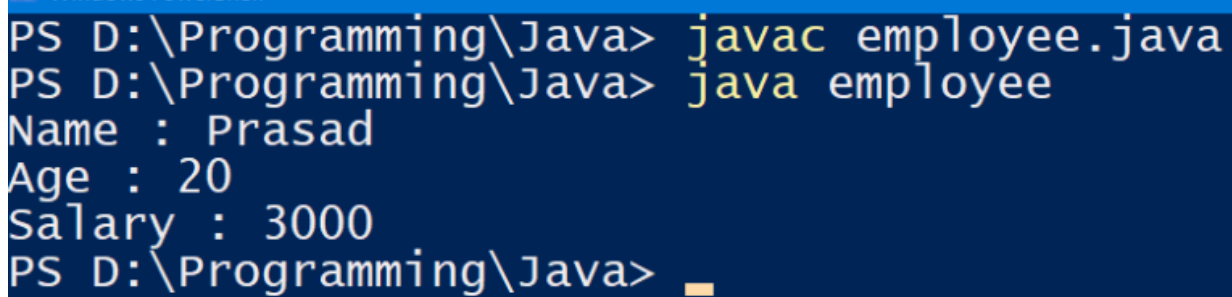
AIM: To write a program to demonstrate multiple inheritance using an interface.

Program 1:

```
import java.util.*;
interface Printable
{
    void print();
}
interface Showable extends Printable
{
    void show();
}
class Interface implements Printable, Showable
{
    public void print()
    {
        System.out.println("Good Morning");
    }
    public void show()
```

```
        {System.out.println("Java is the best");  
    }  
    public static void main(String args[])  
    {  
        Interface obj = new Interface ();  
        obj.print();  
        obj.show();  
    }  
}
```

The output of program 1:



```
PS D:\Programming\Java> javac employee.java  
PS D:\Programming\Java> java employee  
Name : Prasad  
Age : 20  
Salary : 3000  
PS D:\Programming\Java> _
```

THEORY + CONCLUSION:

Inheritance.

Theory:

i) The mechanism of deriving (creating) a new class from an old one is called Inheritance. The old class is referred to as the superclass and the newly created class as subclass.

ii) Therefore, the subclass is a specialized version of the superclass. It inherits all the instance variables & methods defined by the superclass & adds its own member, methods & variables.

iii) Java uses the keyword `extends` to inherit one class from another.

```
class A {  
    }
```

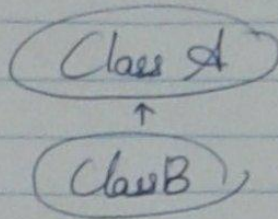
```
class B extends A {  
    }
```

iv) The different types of inheritance are:

- Single inheritance.
- Multilevel inheritance.
- Hierarchical inheritance.
- Multiple inheritance.
- Hybrid inheritance.

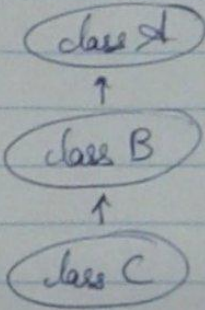
Conclusion: Inheritance is the property of inheriting of methods & vars from the parent class to the child class. It is implemented using the keyword 'extends' and have different types such as Single, Multilevel, Hierarchical, etc.

- Single inheritance



class B extends A

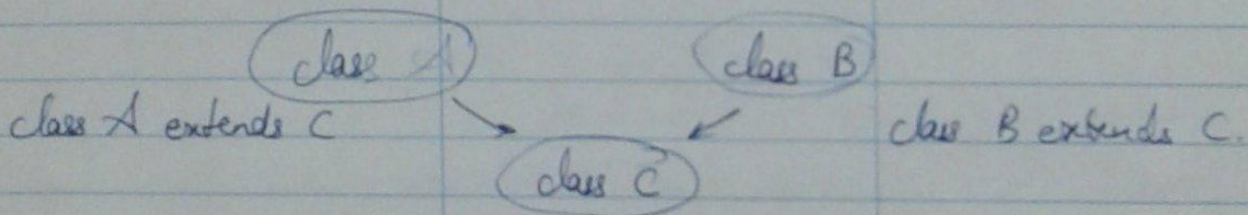
- Multilevel inheritance



class B extends A.

class C extends B

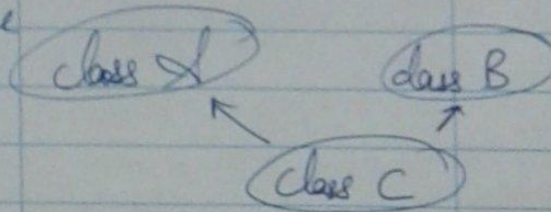
- Hierarchical inheritance



class A extends C

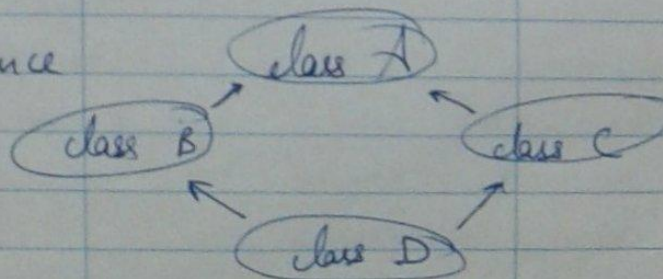
class B extends C.

- Multiple inheritance



Not supported in JAVA

- Hybrid inheritance



Not supported in JAVA.