

#16

INHERITANCE

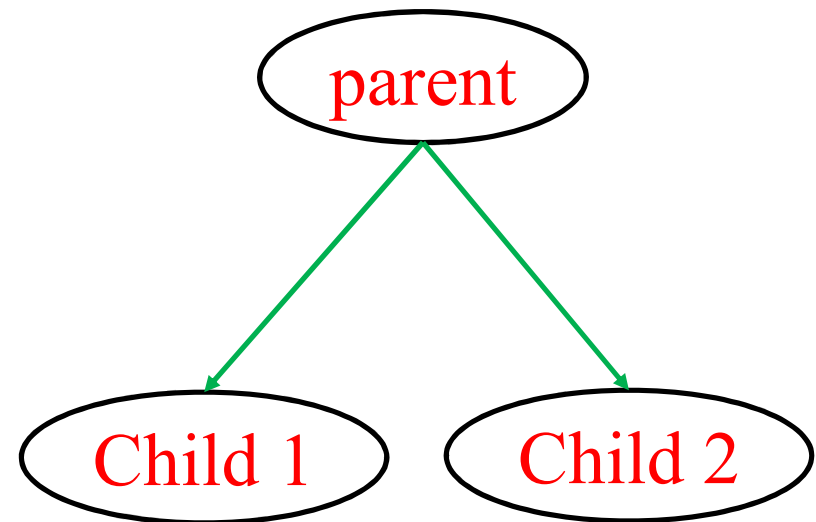


Inheritance

- It is an important pillar of OOPs concept.
- It is the mechanism in java by which one class allow to inherit the features of another class.

Important terminology:

- Super class
- Sub class
- Reusability



Inheritance

```
class A
{
    public int c;
    public add(int a, int b)
    {
        c=a+b;
        System.out.println@;
    }
}
class B extends A
{
    public sub(int a, int b)
    {
        c=a-b;
        System.out.println@;
    }
}
```

```
public class Test
{
    public static void main(String
args[])
    {
        B obj=new B();
        obj.add(10,20);
        obj.sub(10,20);
    }
}
```

30
-10



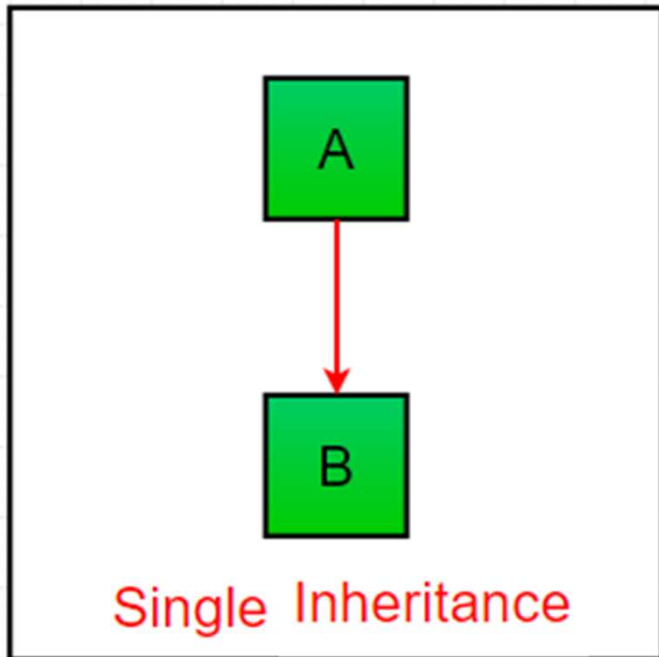
Inheritance Types

- Below are the different types of inheritance which is supported by Java.
 - Single inheritance
 - Multilevel inheritance
 - Hierarchical inheritance
 - Multiple inheritance – Does not supported by Java.
 - Hybrid inheritance



Single Inheritance

- Subclass inherits the features of one super class.



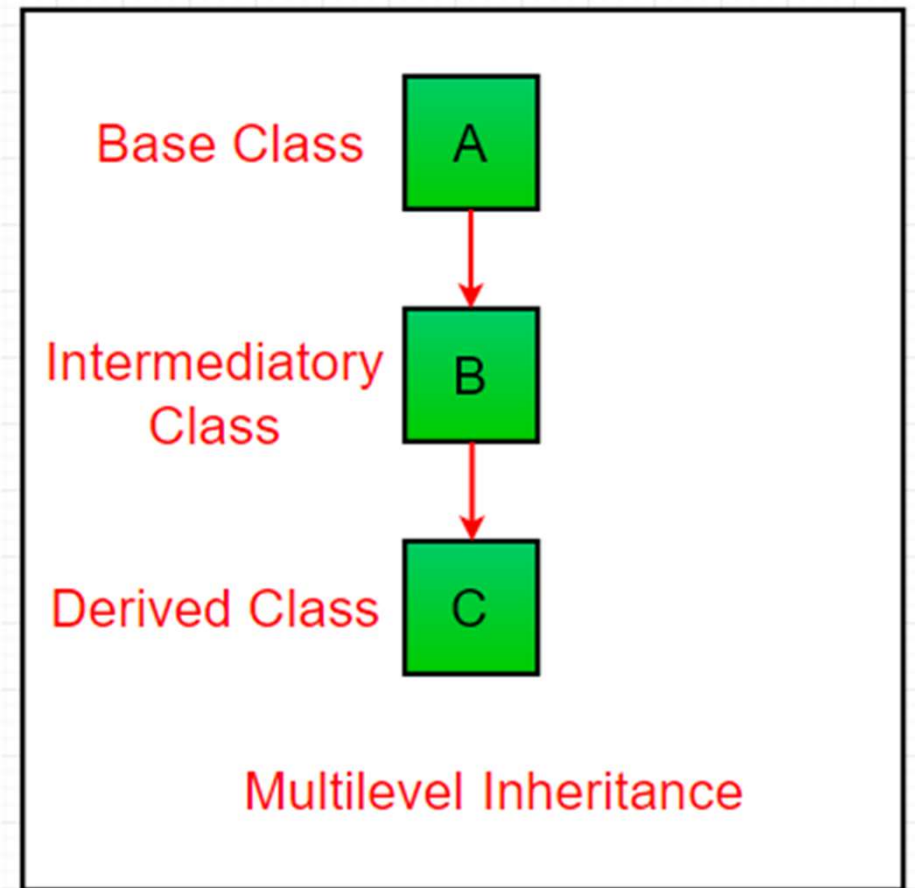
```
class one {
    public void hello() {
        System.out.println("Hello");
    }
}

class two extends one {
    public void world() {
        System.out.println("world");
    }
}

public class Main {
    public static void main(String[] args){
        two g = new two();
        g.hello();
        g.world();
    }
}
```

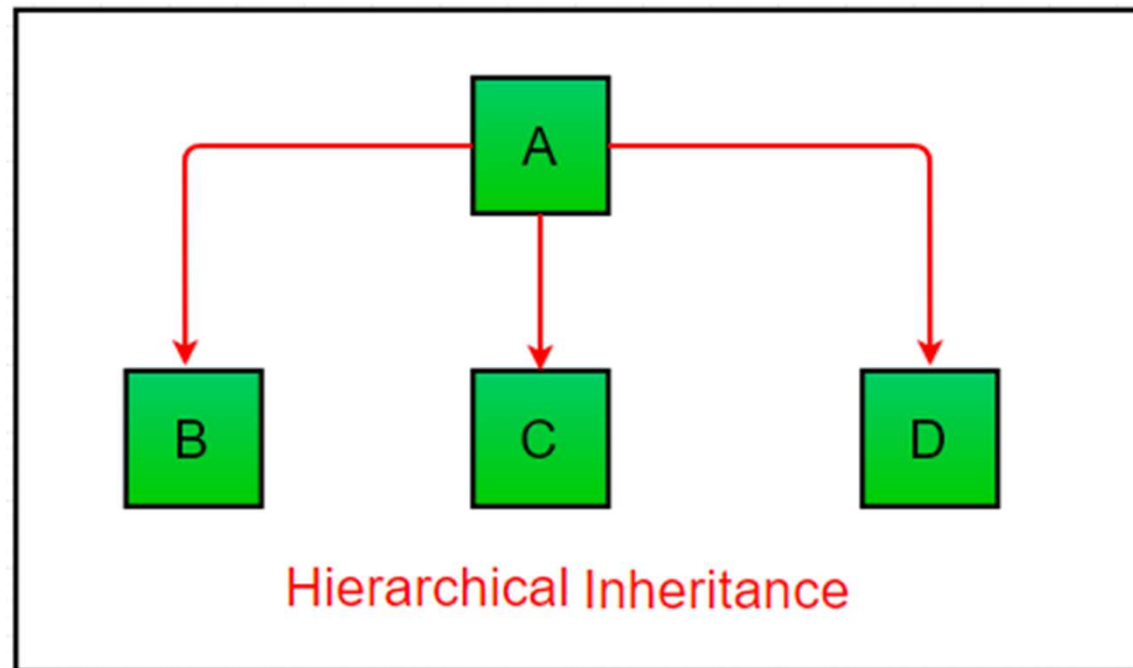
Multilevel Inheritance

- A derived class will be inheriting a base class and as well as the derived class also act as the base class to other class.



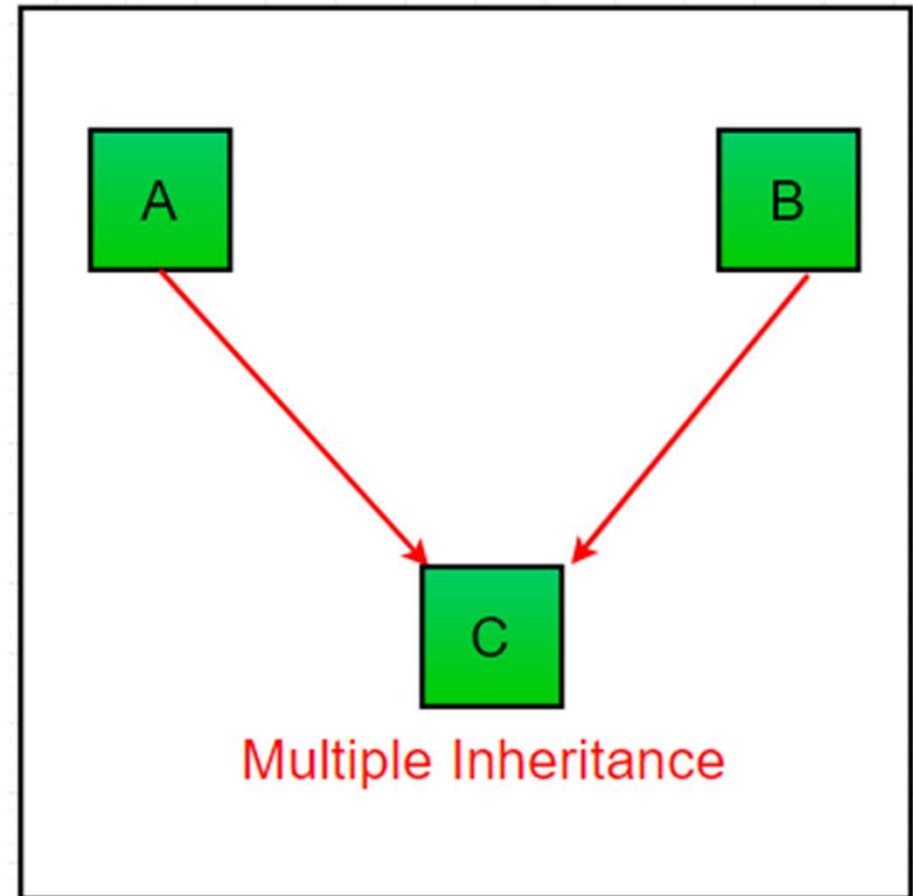
Hierarchical Inheritance

- One class serves as a super class(base class) for more than one sub classes (derived classes)



Multiple Inheritance

- Java Doesn't support multiple inheritance.
- Instead of that, it support **interface**.



Hybrid Inheritance

- Combination of interface and inheritance.

