

# What is Inheritance? Discuss the types of Inheritance.

Inheritance is a process in which one object acquires all the properties and behaviors of its parent class.

## **Inheritance provides following benefits -**

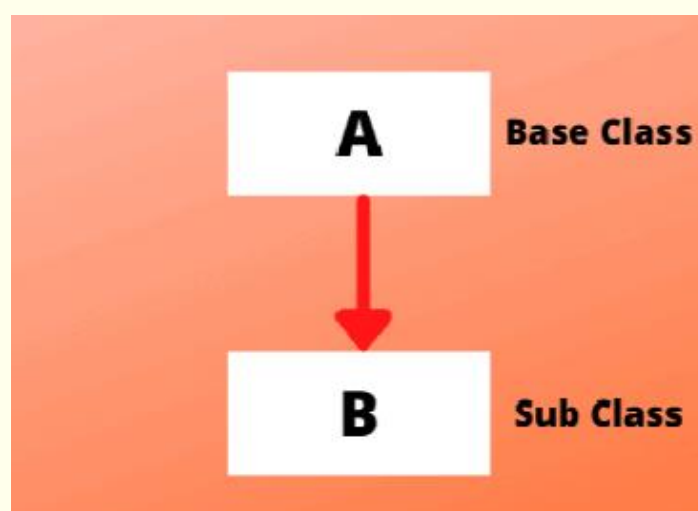
- Code reusability
- Less development and maintenance costs
- Reduces code redundancy and supports code extensibility
- Save time and effort to write codes

## **Types of inheritance:**

1. Single Inheritance
2. Multilevel inheritance
3. Multiple inheritance
4. Hierarchical inheritance
5. Hybrid inheritance

**Single Inheritance:** When one class inherits the properties and behavior of another class, it is known as **single level inheritance**.

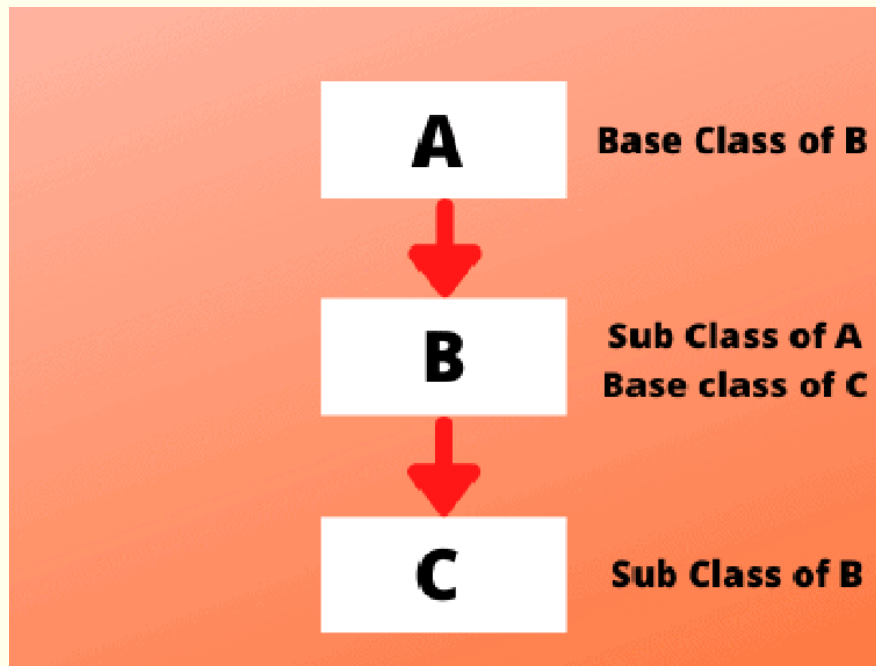
In other words, in single inheritance there is only one base class and only one sub class.



## Multilevel Inheritance:

When a class inherits other class and then that inherited class further inherited by other class, this type of inheritance is called multilevel inheritance.

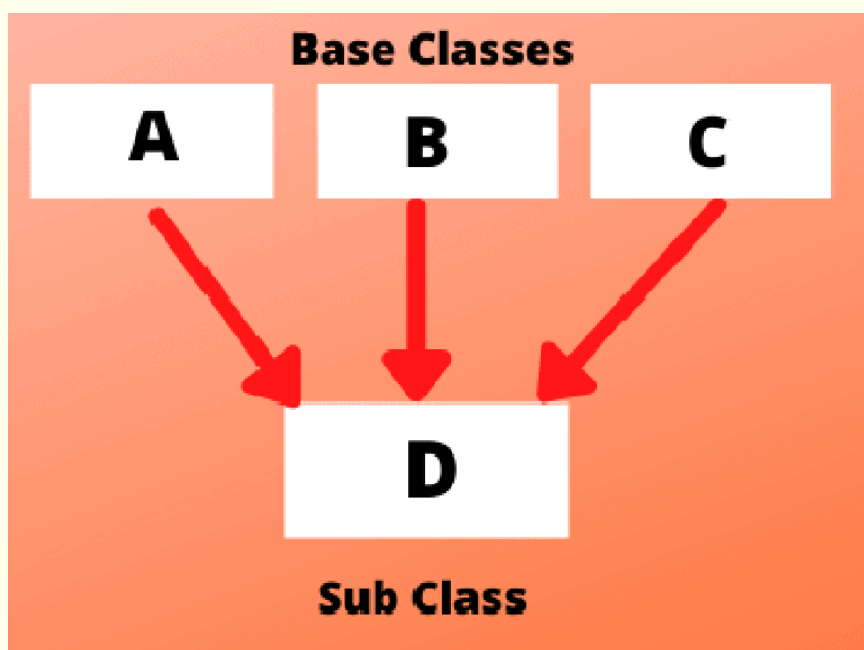
Multilevel inheritance is a process of deriving a class from another derived class.



## Multiple Inheritance:

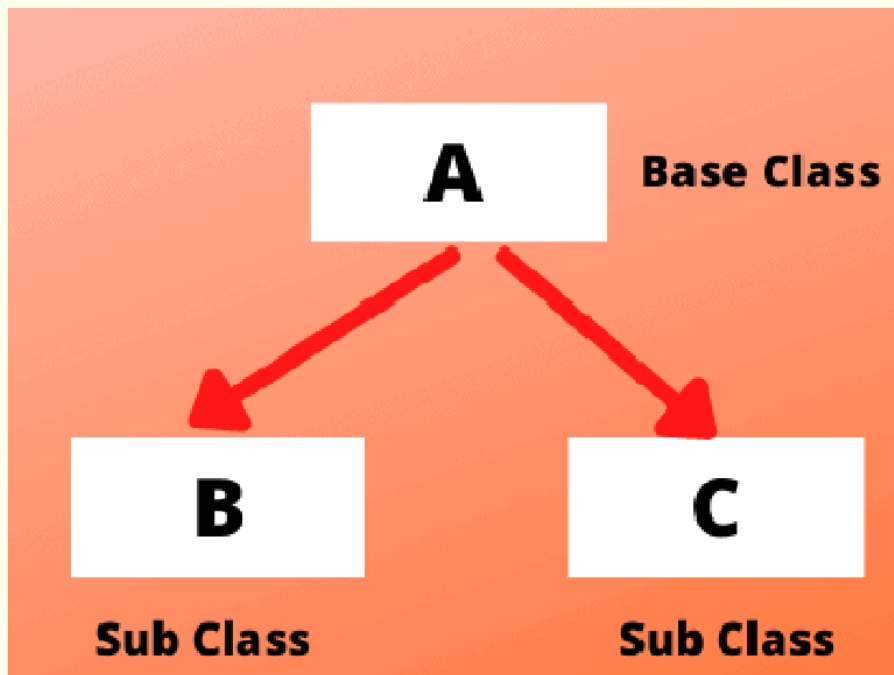
Multiple inheritance is an inheritance where a class can inherit properties and behavior from multiple parent classes. In multiple inheritance, there is only one sub class and multiple super class.

Java does not support multiple inheritance.



## Hierarchical inheritance:

When multiple class inherits the properties and behavior from single base class.



## Hybrid inheritance:

Hybrid inheritance is a combination of simple, multiple inheritance and hierarchical inheritance.

