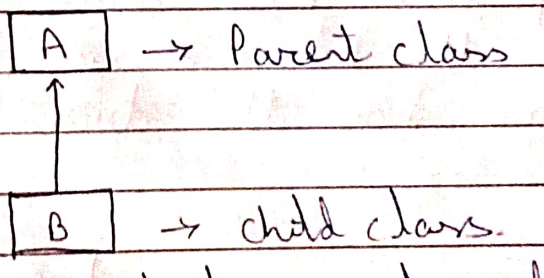
a Inheritance and its types :-

→ Inheritance :- Java, Inheritance is an important pillar of OOP. It means creating new classes based on existing ones. A class that inherits from another class can reuse the methods and fields of that class. In addition, you can add new fields and methods to your current class as well.

Types of Inheritance in Java :-

1. Single Inheritance
2. Multilevel Inheritance
3. Hierarchial Inheritance
4. Multiple Inheritance
5. Hybrid Inheritance.

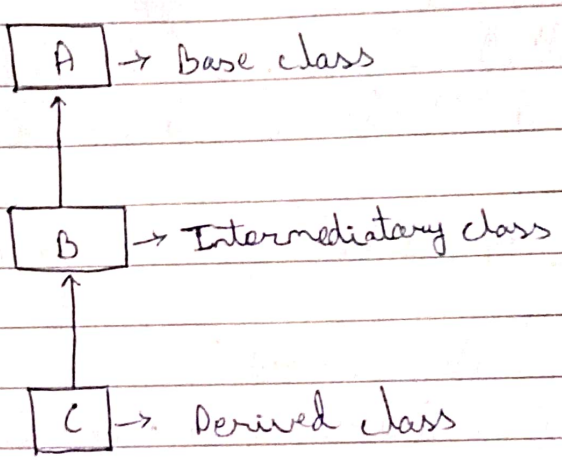
1. Single Inheritance :-



In single Inheritance a Sub class is derived from only one Super class. It inherits the properties and behaviors of a single-parent class.

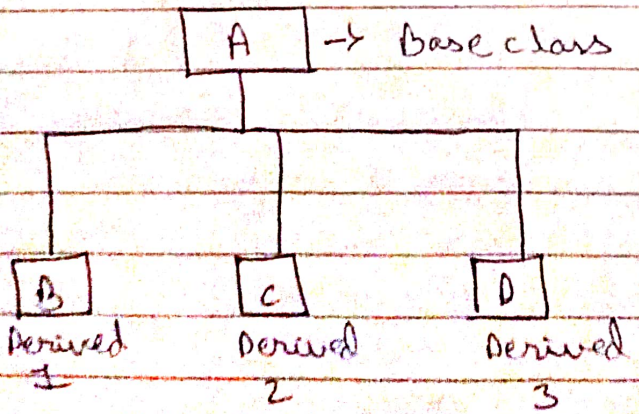
2. Multilevel Inheritance :-

In Multilevel Inheritance, a derived class will be inheriting a base class, and as well as the derived class also acts as the base class for other classes.



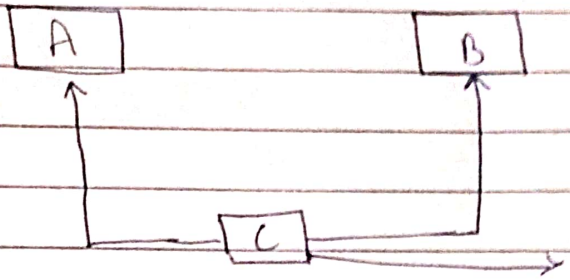
3. Hierarchial Inheritance :-

In hierarchial Inheritance, one class serves as a superclass (base class) for more than one subclass. In the below images, class A serves as a base class for the derived classes B, C, and D.



4. Multiple Inheritance :-

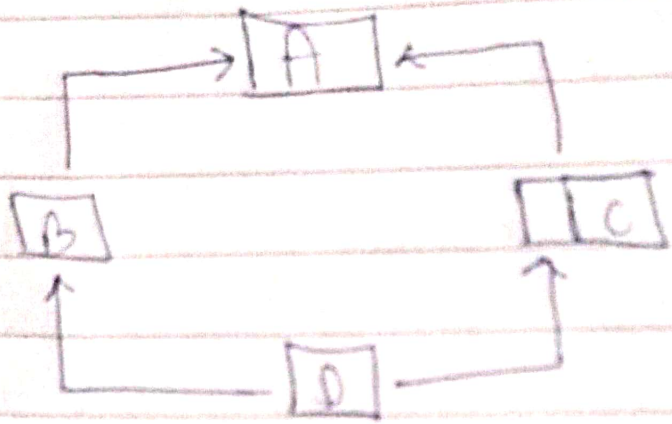
In Multiple Inheritance, one class can have more than one superclass and inherit features from all parent classes, → Note :- Java does not support Multiple Inheritance with classes. In Java, we can achieve multiple inheritance only through Interfaces.



Multiple Inheritance

5. Hybrid Inheritance :-

It is a mix of two or more of the above types of Inheritance. Hybrid Inheritance is also support multiple Inheritance so it is used when Interface is their otherwise it will not ~~support~~ work. However, it is important to note that Hybrid does not necessarily require the use of multiple inheritance exclusively. It can be achieved through a combination of Multilevel Inheritance and Hierarchical Inheritance with classes, Hierarchical and Single Inheritance with classes. Therefore, it is indeed possible to implement hybrid inheritance using classes alone, without relying on multiple inheritance type.



Hybrid inheritance.