07/06/24

Inheritance

*. Inheritance is an important pillar of OOP.

* Inheritance in Java is a mechanism in which one ~~s~~object acquires all the properties and behaviors of a parent object.

* It is the mechanism in Java by which one class is allowed to inherit the features (fields and methods) of another class.

* In Java, Inheritance 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.

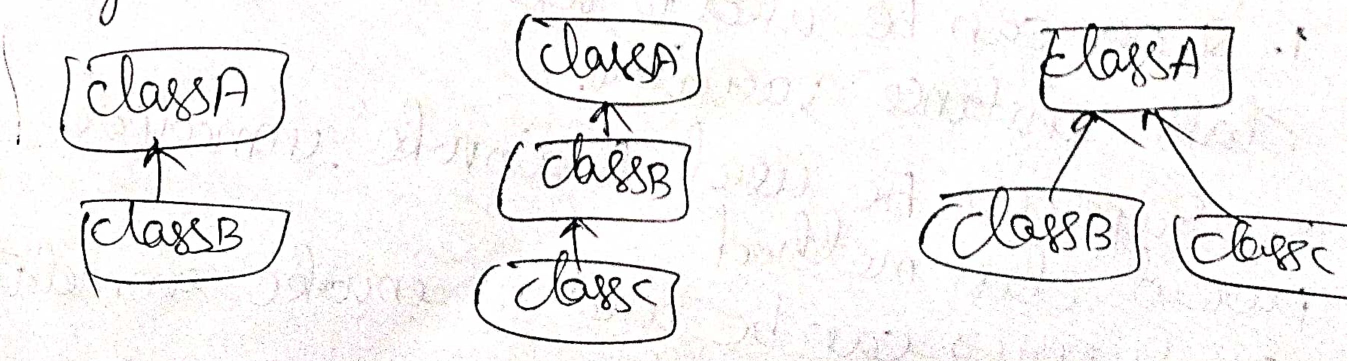
Need of Inheritance:

code Reusability: The code written in the superclass is common to all subclasses. Child classes can directly use the parent class code.

Method overriding: Method overriding is achievable only through Inheritance. It is one of the ways by which Java achives Run Time Polymorphism.

Abstraction: The concept of abstract where we do not have to provide all details is achieved through inheritance. Abstration only shows the functionality to the user.

Types of Inheritance

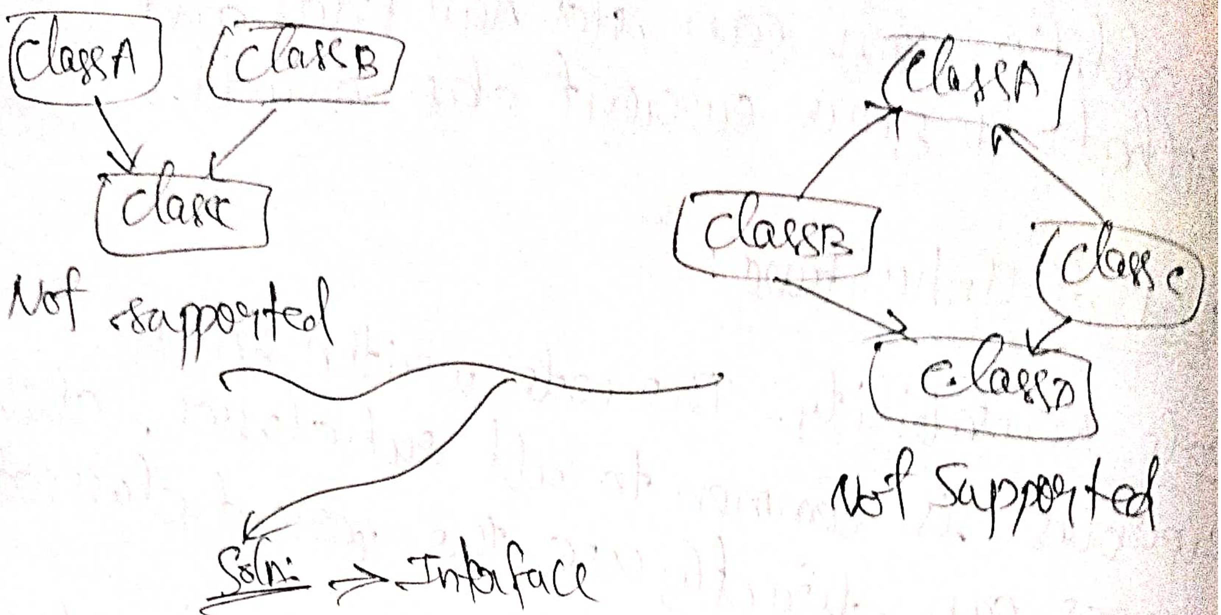


Single Level

Multi Level

Hierarchical

Multiple   Hybrid



Super Keyword

* The super keyword in Java is a reference variable which is used to refer immediate parent class object

* Whenever you create the instance of subclass, an instance of parent class is created implicitly which is referred by super reference variable.

Usage of Super keyword

1. super can be used to refer immediate parent class instance variable.
2. Super can be used to invoke immediate parent class method
3. super() can be used to invoke immediate parent class constructor.

Real time Example:

* The class 'Car' inherits its properties from the class 'Automobiles' which inherits some of its properties from another class 'Vehicles'