Java Programming

Inheritance in Java

→ **Problem Statement:**

1. Write a program in Java showing hierachical inheritance with base class as Employee and derived class as Full time Employee and Intern Employee with method Display Salary and Calculate Salary in derived classes. Calculate salary method will calculate as per increment given to fulltime and intern Employee....

→ **Objective:**

1. To study Inheritance in Java
2. To study Why use Inheritance
3. To study Types of Inheritance

→ **Theory:**

1) Inheritance in Java is a mechanism in which one object acquires all the properties and behaviors of a parent object.

Super class: The class whose features are inherited is known as superclass.

Sub class: The class that inherits, the other class is known as subclass.

Reusability : Inheritance supports the concept of "reusability" i.e. when we want to create a new class and there is already a class.

→ Advantage of inheritance:

a) Can minimize the length of duplicate code in an application.
b) Redundancy of the application is reduced.
c) makes code more flexible to change.

→ Types of Inheritance:

1. Single Inheritance.
2. Multilevel Inheritance
3. Hierarchical Inheritance
4. Multiple Inheritance

→ Conclusions:

Thus, we have successfully implemented usage of Inheritance in Java.

→ FAQ's:

1. Is multiple inheritance supported in Java? How is it achieved?

Ans Multiple inheritance is a feature of an object-oriented concept, where a class can inherit properties of more than one parent class. The problem occurs when there exist methods with the same signature in both the superclasses and subclass. On calling the method, the compiler cannot determine which class method to be called and even on calling which class method gets the priority.
Java 8 supports default methods where interfaces can provide a default implementation of methods. And a class can implement two or more interfaces.

2. What is Is-A relationship in Java?

Ans A relationship in Java means different relations between 2 or more classes. - For ex, if a class bulb inherits another class Device, then we can say that bulb is having is-a relationship with Device, which implies Bulb is a device.

3. Are constructor and instance initialization block inherited to subclass?

Ans Constructors are not members, so they are not inherited by subclass, but the constructor of the superclass can be invoked from the subclass.
The instance initializer block is invoked at the time of object creation.