**Demonstrate inheritance types:**

[Inheritance](https://www.javatpoint.com/inheritance-in-java) is a mechanism of driving a new class from an existing class. The existing (old) class is known as base class or super class or parent class. The new class is known as a derived class or sub class or child class. It allows us to use the properties and behavior of one class (parent) in another class (child).

A class whose properties are inherited is known as parent class and a class that inherits the properties of the parent class is known as child class. Thus, it establishes a relationship between parent and child class that is known as parent-child or Is-a relationship.

Suppose, there are two classes named Father and Child and we want to inherit the properties of the Father class in the Child class. We can achieve this by using the extends keyword.

Types of Inheritance:

* Single Inheritance
* Multi-level Inheritance
* Hierarchical Inheritance
* Hybrid Inheritance

### **Single inheritance:**

In single inheritance, a sub-class is derived from only one super class. It inherits the properties and behavior of a single-parent class. Sometimes it is also known as **simple inheritance**.

### **Multi-level Inheritance:**

In **multi-level inheritance**, a class is derived from a class which is also derived from another class is called multi-level inheritance. In simple words, we can say that a class that has more than one parent class is called multi-level inheritance. Note that the classes must be at different levels. Hence, there exists a single base class and single derived class but multiple intermediate base classes.

### **Hierarchical Inheritance**

If a number of classes are derived from a single base class, it is called **hierarchical inheritance**.

### **Hybrid Inheritance:**

Hybrid means consist of more than one. Hybrid inheritance is the combination of two or more types of inheritance.

GrandFather is a super class. The Father class inherits the properties of the GrandFather class. Since Father and GrandFather represents single inheritance. Further, the Father class is inherited by the Son and Daughter class. Thus, the Father becomes the parent class for Son and Daughter. These classes represent the hierarchical inheritance. Combinedly, it denotes the hybrid inheritance.

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