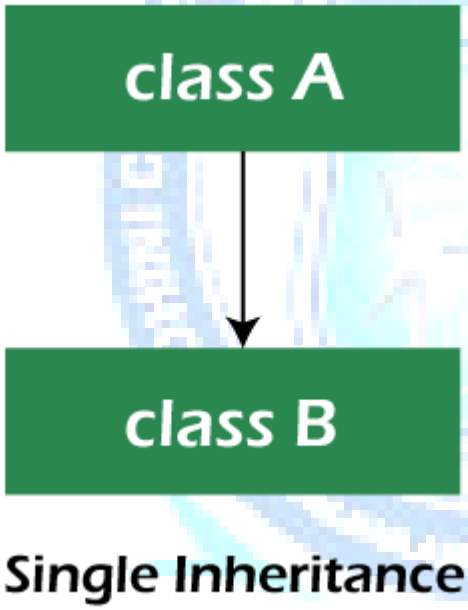
Inheritance

What is Inheritance?

The term 'Inheritance' is derived from the word "Inherit" which means, "to derive any quality, features or characteristics from family". Therefore, "***Inheritance is defined as a mechanism where the sub or child class inherits the properties and characteristics of the super class or other derived classes. It also supports additional features of extracting properties from the child class and using it into other derived classes.***"

Types of Inheritance

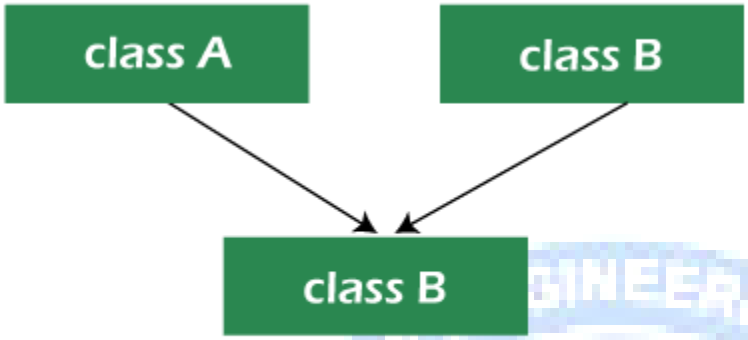
1. Single Inheritance:



In this type, the child class inherits the properties from the superclass.

Here you will notice class One is the superclass, and class Two is the base class. Therefore, class Two inherits the properties and behaviour of the base class One.

2. Multiple Inheritance:

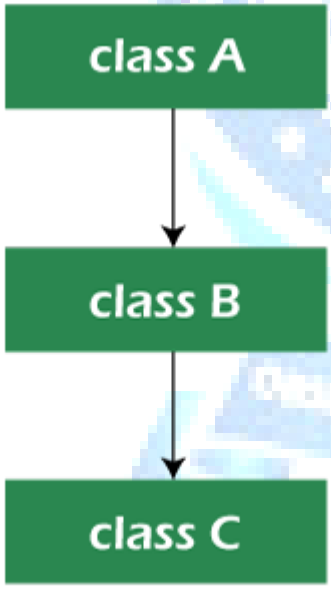


Multiple Inheritance

The child class inherits the properties and features from two or more parent classes with this type.

Here you will notice class Three inherits the features and behaviour of class Two. Further, class Two inherits the properties of class One. Therefore, we can conclude that class One is the base class of class Two, whereas class Two is the base class of class Three.

3. Multilevel Inheritance:

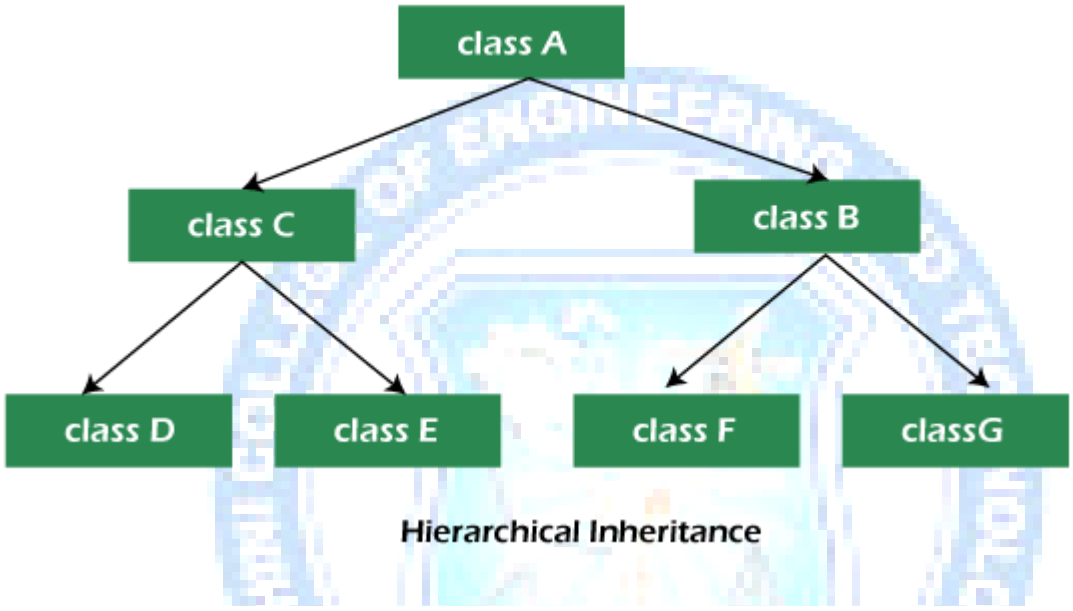


Multi - Level Inheritance

With this type, one child class inherits the properties and behavior from two or more superclasses.

Here, class three inherits the properties, functions and objects for both class Two and class One at the same level. Therefore, both class One and class Two are the superclasses for class Three.

4. Hierarchal Inheritance:



In the Hierarchical Inheritance type, two or more child classes inherit the properties and behaviors from one superclass.

Here,

(I) The base class One has two derived classes, i.e., class Two and class Three.

(II) Next, class Two acts as a base class for two child classes named Six and Seven.

(III) Further, class three is also a base class for class Four and class Five, respectively.