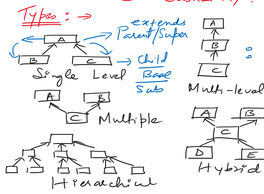
Inheritance :→

The property by virtue of which all Parent class properties can be reused/utilized in the subsequent child classes is called inheritance.

* Most important advantage is "Code Reusability"

Types :→



* Polymorphism :→

Latin Words :

poly → many

morph → forms or shapes

The property by which same entity can behave differently under different circumstances, is called polymorphism.

* Aditya
  Role Changes
  Person doesn't change.

Class → Student
Restaurant → Customer
Home → Son
Playground → Player

* Static	* Dynamic
* Compile-Time	* Runtime
* Overloading	* Overriding
* Same Class	* Multiple Classes

Std :: → Scope Resolution Operator

Overloading :

1. changing the no. of parameters
2. changing the data types of the parameters

Overriding :

*** Important Point :

To achieve overriding in C++ we make use of a very special keyword named "virtual" to create "virtual functions".

RBI → 6.2 →

SBI 7.1 | ICICI 7.3 | HDFC 8.1

Own Implementation

* What is the most important use of polymorphism in C++?
* We can use a parent class pointer/reference to refer to a child class object.

* Data Abstraction or Abstraction :

⇒ Showing — What
Hiding — How

Hiding the implementation details & only showing the functionality to the end-user, is called data abstraction.

* Improves User Experience
* There are no entities called "Interfaces" in C++.
* We use "pure virtual function" to achieve 100% abstraction.
* pure virtual function = Interface

implements

*** Association

It is the relation between classes in an application.

There are two types : Loose coupling

(I) Aggregation :
HAS-A Relationship
Car
MP3

(II) Composition :
IS-A Relationship
Car
Engine

Tight coupling

Loose Coupling :
Objects are loosely bound to the class.

Tight coupling :
Objects are tightly bound to each other.