Parent 1 (Example of Multiple Inheritance) Parent 2

class Simple Calculator { void add(a,b); ✓ void subtract(a,b); ✓ }; ✓

class Scientific Calculator { void square-root(a); ✓ void exponent(a,b); ✓ }; ✓

Child

class Super Calculator : public Simple Calculator, public Scientific Calculator { object ⟶ { add(), subtract(), sq-root(), exponent(); } }

Multilevel Inheritance:

A obj;
obj.methodA(); (1)
B obj;
obj.mA(); (2)
mB();
C obj;
obj.mA(), mB(), mC(); (3)

declare

class A { methodA(); }
class B : public A { methodB(); }
class C : public B { methodC(); }

Polymorphism :→ The process by which a same entity can behave differently under different scenarios or circumstances, is called polymorphism.

Praveen
Classroom → Student
Food Court → Customer
Home → Son
} Role or character changes.

Poly → many
morph → forms or shapes

Two types of polymorphism :

(I) Static | Compile Time | Overloading (Same Class)
(i) no of parameters (ii) data type of parameters.

(II) Dynamic | Run Time | Overriding (Multiple Classes)

If we don't want to create objects to access the methods, we use the static keyword.

class A{
static void show();
}

main() { A::show(); }

Overriding :→

RBI → roi 8%

Overriding

ICICI roi 7.1
IDBI roi 7.2
Canara roi 8.6
SBI roi 9.1
HDFC roi 10.6

(override) this keyword is used.

Father | Building | Hotel
Son | Building | Gym
Daughter | Building | Boutique

virtual (P) override (C)

Different Classes — Overriding

Showing → What is happening (functionality)
Hiding → How it is happening (implementation)

Hiding the implementation details & only showing the functionality to the "end user" is called data abstraction. For better User Exp (UI-UX)

* Abstraction (pure virtual functions) ***
* Exception Handling (PBC SBC)
* DMA (CPP (new & delete))
* Standard Template Library (W3Schools)
* DSA Roadmap → 20273 File Handling

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