

\* Multi-level:

```

class A {
    methodA();
}

{
    class B {
        methodB();
    }
}

class C {
    methodC();
}

```

$\rightarrow \underline{\text{Obj} \rightarrow A}$   $mA() \checkmark$   
 $\rightarrow \underline{\text{Obj} \rightarrow B}$   $mA() \checkmark$   
 $mB() \checkmark$   
 $\underline{\text{Obj} \rightarrow C}$   
 $mA() \checkmark$   
 $mB() \checkmark$   
 $mC() \checkmark$

Abstraction:

Showing the functionality  
(necessary data) &

hiding the implementation details from the  
end user is called data abstraction.

Showing  $\rightarrow$  what is happening  
(functionality)

hiding  $\rightarrow$  how it is happening  
(implementation)

- ① Abstract Classes & Methods (0 - 100%)
- ② Interfaces  $\rightarrow$  Java  $\rightarrow$  C++ (Pure Virtual Function)  
Better UX

\* Polymorphism: The process by which same entity can behave differently.

Entity:

Mohit

Place

Classroom

Restaurant

Home

Role

Student

Customer

Son

Poly + Morph

Many forms/shapes

① static

| compile time

overloading | Same class

② dynamic

| run time

overriding | Multiple Classes