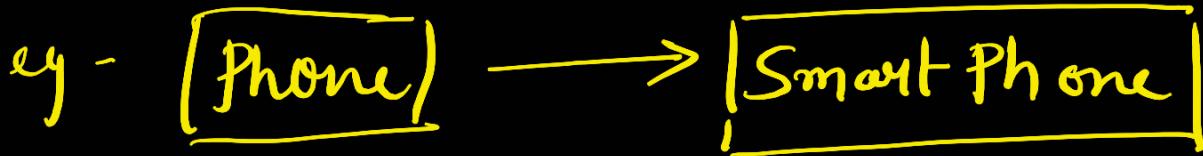


Inheritance in JAVA

one class inherit the attributes and methods of parent class.



super class/

Parent class

Sub class/child class

- extends Keyword is used to inherit

Syntax → class Subclass-name extends Super-class{
 // code.

}

Imp { Java doesn't support multiple inheritance
i.e two classes cannot be super class for a
sub class.

eg - public class Dog extends Animal{
 // code.
}

• Constructors in inheritance -

→ Constructor of the base class is executed first followed by the constructor of the derived class.



Constructors during constructor overloading

→ When there are multiple constructors in the parent class, the constructor without any parameter is called from child class.

→ To call parameterized constructor we can use super keyword.

eg - Derived (int x){
 super(x);
}

- this Keyword -

- ⇒ This is a way for us to reference an object of the class which is being created.
- ⇒ Eliminates the confusion b/w parameters and the class attributes

- Super Keyword -

- ⇒ A reference variable used to refer immediate parent class object.
- ⇒ It can be used to invoke the parent class Method.

Method Overriding :-

→ If the child class implements the same method (Same name & parameters) that is present in parent class.

In Base class -

```
public void print_val() {
    cout ("print Base");
}
```

In Derived class -

@Override

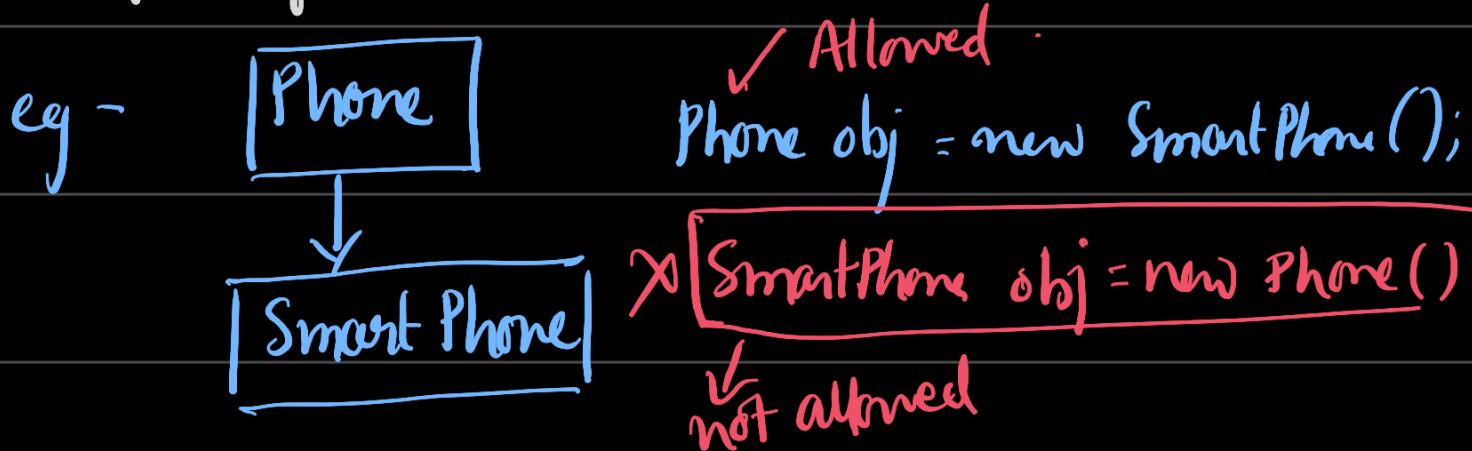
```
public void print_val() {
    cout ("print Base");
}
```

Override
the above
method.
=

• Dynamic Method Dispatch :-

- Also known as runtime Polymorphism.
- This technique is used to resolve a call to an overridden method at runtime rather than compile time.

• Upcasting - It is a technique in which a superclass reference variable refers to the object of the subclass.



- Abstract Class and Abstract Methods -

→ Abstract in English means existing in thought or as an idea without concrete existence.

Abstract Class -

→ An abstract class cannot be instantiated.

→ Includes abstract and non-abstract method.

→ Class must be declared abstract.

Abstract Method -

→ Method is declared without implementation.

→ Declaration is present in the class that

inherits the abstract class.

```
eg- abstract class Parent {  
    abstract void greet();  
}
```

```
class Child extends Parent {  
    public void greet() {  
        System.out.println("Good Morning");  
    }  
}
```

Note:- It is possible to create reference of an abstract class.

- It is not possible to create an object of an abstract class.