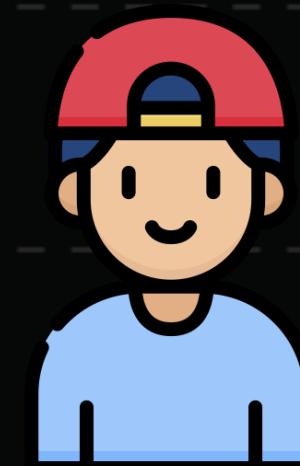


**Parent
Class**

**Child
Class**

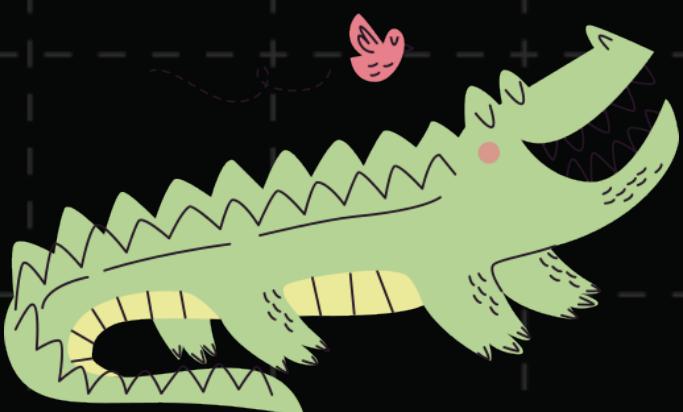
inherits



Inheritance

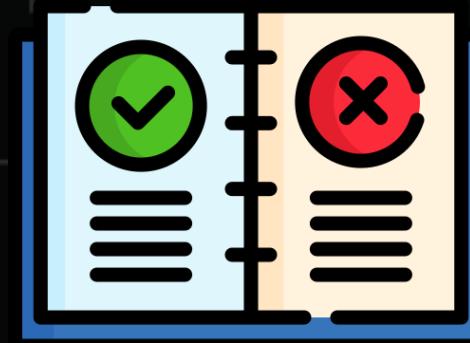
```
class child extends Parent{  
    // additional instance variables  
    // additional methods  
}
```

Thus all the methods and variables (both instance & static) can be accessed from the child class . Child Class is inheriting them from Parent Class



Constructor RULES

Inheritance



Default Constructor

If there is a **parameterless constructor** in the parent class that'll be called automatically without using `super()` explicitly whenever a new instance of **Child class** is created.



Scenerio 1

Parent Class

ParentClass()

Parameterless
Contstructor

`new ChildClass()`

Child Class

No Constructor

Automatically
calls parameter less
parent constructor

```
class ParentClass{
    public ParentClass(){
        System.out.println("Super/Parent Class constructor is called");
    }
}

class ChildClass extends ParentClass{
}

public class Main{
    public static void main(String[] args) {
        ChildClass c = new ChildClass();
    }
}
```

Output

```
/home/raphy/.jdks/openjdk-21.0.1/bin/java
Super/Parent Class constructor is called

Process finished with exit code 0
```

Scenerio 2

Parent Class
ParentClass()

Parameterless
Contstructor

Child Class
ChildClass()

Parameterless
constructor

new ChildClass()



Automatically calls
parameterless parent
constructor first

before calling child
constructor

Code for Scenerio 2



```
class ParentClass{
    public ParentClass(){
        System.out.println("Super/Parent Class constructor is
called");
    }
}

class ChildClass extends ParentClass{
    public ChildClass(){
        System.out.println("Child Class Constructor is called");
    }
}

public class Main{
    public static void main(String[] args) {
        ChildClass c = new ChildClass();
    }
}
```

```
/home/raphy/.jdks/openjdk-21.0.1/bin/java
Super/Parent Class constructor is called
Child Class Constructor is called
```

```
Process finished with exit code 0
```

Parent Class has no default constructor /parameterless constructor /no-argument constructor

Scenerio 3

Parent Class

ParentClass(int x)

Child Class

ChildClass()

new ChildClass()
**will throw
ERROR!**

Child Class

```
ChildClass(){  
    super(value);  
    //code  
}
```

no default constructor

```
1 class ParentClass{  
2     public ParentClass(int x){  
3         System.out.println(x + " Parameterized Constructor from  
4 ParentClass");  
5     }  
6  
7 class ChildClass extends ParentClass{  
8     public ChildClass(){  
9         System.out.println("Super / Child Class constructor is called");  
10    }  
11 }  
12  
13 public class Main{  
14     public static void main(String[] args) {  
15         ChildClass c = new ChildClass();  
16     }  
17 }
```



ERROR!

Do This →

no default constructor



```
1 class ParentClass{-
2   ... public ParentClass(int x){-
3     .... System.out.println(x +" Parameterized Constructor from-
4     ParentClass");
5   }
6
7 class ChildClass extends ParentClass{-
8   ... public ChildClass(){-
9     .... super(10);
10    System.out.println("Sub / Child Class constructor is called");
11  }
12 }
13
14 public class Main{-
15   ... public static void main(String[] args){-
16     .... ChildClass c = new ChildClass();
17   }
18 }
```

OUTPUT

```
/home/raphy/.jdks/openjdk-21.0.1/bin/java -jav
10 Parameterized Constructor from ParentClass
Sub / Child Class constructor is called
```

```
Process finished with exit code 0
```



I welcome
feedback to
continue
improving

**feel free to share or repost
if it provides value**