

Java Inheritance

Q 1 : Why need Inheritance ?

Ans : For method Overriding and Code reuse .

Q 2 : Parent Class has a private method , Child class want to access that method , is it possible ?

Ans : No .

Access Modifier

Modifier	Class	Subclass	Package	World
public	Y	Y	Y	Y
protected	Y	Y	Y	N
No modifier	Y	Y	N	N
private	Y	N	N	N

Q 3 : What are Inheritance keyword ?

Ans : Extends and Implements .

Q 4 : Why we use super Keyword in child class ?

Ans : To invoke the overridden method or variable of Superclass to Subclass through the use of the keyword super.

Source : <https://beginnersbook.com/2014/07/super-keyword-in-java-with-example/>

```
class Superclass {
    int num = 10 ;
}
class Subclass extends Superclass{
    int num = 110;
    void printNumber(){
        System.out.println(super.num);
    }
    public static void main(String args[]){
        Subclass obj= new Subclass();
        obj.printNumber();
    }
} output : 100
```

Q 5 : Why use this Keyword ?

Ans : *this* keyword works as a reference to the current Object whose Method or constructor is being invoked.

```
int variable = 5;

void method() {
    int variable = 40;
    System.out.println("Value of Instance variable :" + this.variable);// output = 5 ;
    System.out.println("Value of Local variable :" + variable);        // output =40 ;
}
```

Source : <http://javabeginnerstutorial.com/core-java-tutorial/this-keyword-in-java/>

Q 6 : How much kind of Inheritance ?

Ans :

- Single Inheritance
- Multiple Inheritance (**Through Interface**)
- Multilevel Inheritance
- Hierarchical Inheritance
- Hybrid Inheritance (**Through Interface**)

Source : <http://www.javainterviewpoint.com/types-of-inheritance-in-java-singlemultiplemultilevelhierarchical-hybrid/>

Q 7 : What is Ambiguous Problem ?

Ans : Multiple inheritance in Java is cause for Ambiguous Problem , because Java doesn't support multiple inheritance .

Source(<https://beginnersbook.com/2013/05/java-multiple-inheritance/>)

Q 8 : What is Aggregation in Java ?

Ans : Aggregation is a special form of association. It is a relationship between two classes like association ,It represents a **HAS-A** relationship.

Source : <https://beginnersbook.com/2013/05/aggregation/>

Q 9 : Aggregation or Inheritance ,When what to use .

Ans : Code reuse is best achieved by aggregation when there is no **IS-A** relationship.

Inheritance should be used only if the relationship is-a is maintained throughout the lifetime of the objects involved; otherwise, aggregation is the best choice.

Source : <https://www.javatpoint.com/aggregation-in-java>

Q 10 : Java Constructor is Implicit or Explicit ?

Ans : Java will provide us default constructor implicitly .Even if the programmer didn't write code for constructor, he can call default constructor. The no arguments constructor is called implicitly if you don't call one yourself, which is invalid if that constructor doesn't exist. Explicit is opposite to this , programmer has to write .

Source : <https://stackoverflow.com/questions/24013545/what-is-the-difference-between-implicit-constructor-and-explicit-constructor>

Q 11 : More than one constructor in child class , Is it need to call a super keyword without arguments to inherit a parent constructor .

Ans : Yes , need to call a super() , first line inside Constructor . It will invoke Immediate Parent Constructor . Otherwise ,if super() not call in first line , compile time error will occur .

Source : Java The Complete Reference, Seventh Edition Herbert Schildt , page -170

Q 12 : Do Java Inheritance have any alternative that another OOP language has .

Ans : Delegation .

Source : <https://www.geeksforgeeks.org/delegation-vs-inheritance-java/>

wiki : [https://en.wikipedia.org/wiki/Delegation_\(object-oriented_programming\)](https://en.wikipedia.org/wiki/Delegation_(object-oriented_programming))

Q 13 : Write down relation between Static and Instant Variable and Method .

Ans :

Variable /Method	Superclass Instant Variable/Method	Superclass Static Variable/Method
Subclass Instant	Overwrite	Compile time error
Subclass Static	Compile time error	Hides

Q 14 : Describe about Up-casting , Down casting and Dynamic Binding in Java .

Ans :

Up-casting :

```
Animal animal = (Animal)new Dog();
```

```
Animal animal = new Dog();
```

```
Dog casted_dog = (Dog) animal;
```

There's no need to upcast manually, it happens on its own:

But **downcasting** must always be done manually:

```
Dog d1 = new Dog();  
Animal a = d1;      //automatic upcasting to Animal  
Dog c2 = (Dog) a;    //manual downcasting back to a Cat
```

source : <https://stackoverflow.com/questions/23414090/what-is-the-difference-between-up-casting-and-down-casting-with-respect-to-class>

Q 15 : Describe about Dynamic Binding in Java .

Ans :

```
Animal a=new Dog();
```

Here : Animal is parent class and Dog is child class

Source : <https://www.javatpoint.com/static-binding-and-dynamic-binding>

Q 16 : How can we initialize blank final variable without using constructor ?

Ans : final int num ;

```
static {    num = 8 ;    }
```

Source : <https://www.javatpoint.com/final-keyword>