

## Java Interface and Abstract Class

Q 1: What is Abstract class ?

Ans : A class that is declared using “**abstract**” keyword is known as abstract class. It can have abstract methods(methods without body) as well as concrete methods (regular methods with body). A normal class(non-abstract class) cannot have abstract methods.

Source : <https://beginnersbook.com/2013/05/java-abstract-class-method/>

Q 2: Can Interface be extended by another Interface ?

Ans : Yes , she(!) can , extends by Interface but Implemented by a class .

[why she ! cause I think it contains a child ]

Source : [https://www.tutorialspoint.com/java/java\\_interfaces.htm](https://www.tutorialspoint.com/java/java_interfaces.htm)

Q 3: Different between Abstract and Interface .

Ans :

	<b>Abstract Class</b>	<b>Interface</b>
1	An abstract class can extend only one class or one abstract class at a time	An interface can extend any number of interfaces at a time
2	An abstract class can extend another concrete (regular) class or abstract class	An interface can only extend another interface
3	An abstract class can have both abstract and concrete methods	An interface can have only abstract methods
4	In abstract class keyword “abstract” is mandatory to declare a method as an abstract	In an interface keyword “abstract” is optional to declare a method as an abstract
5	An abstract class can have protected and public abstract methods	An interface can have only have public abstract methods
6	An abstract class can have static, final or static final variable with any <a href="#">access specifier</a>	interface can only have public static final (constant) variable
7	An abstract class can have constructor .	Interface can not

Source : <https://beginnersbook.com/2013/05/abstract-class-vs-interface-in-java/>

Characteristic	interface	abstract class	class
Can extend one or more interfaces	yes	no	no
Can extend a single class	no	yes	yes
Can implement one or more interfaces			
Can have method signatures without bodies	yes	yes	no
Can have method implementations with bodies	no	yes	yes
Can be protected or private			
Can have protected or private members			
Can have constructors			
Can have static methods			
Can have static fields (other than public final ones)			
Can have public static final fields	yes	yes	yes

Source : <https://www.ics.uci.edu/~alspaugh/cls/shr/java-type.html>

Q 4:What is Concrete Class ?

Ans : A concrete class is the class that has the implentaion of an interface. A concrete subclass on the other hand has the implementation of an abstract superclass that is extended.

Source :<https://www.javatpoint.com/q/4106/what-is-concrete-class-and-base-class-and-derived-class-?>

Q 5: What is marker Interface ?

Ans : It is an empty interface (no field or methods). Examples of marker interface are Serializable, Clonnable and Remote interface. All these interfaces are empty interfaces.

Source : <https://www.geeksforgeeks.org/marker-interface-java/>

Q 6: Why doesn't Abstract modifier use in Interface ?

Ans : Every interface is implicitly abstract. This modifier is obsolete and should not be used in new programs.

Source : <https://stackoverflow.com/questions/2134200/why-declare-an-interface-as-abstract>

Q 7: What kind of types is Interface .

Ans : Reference Type .

Source : <https://stackoverflow.com/questions/7275844/interface-as-a-type-in-java>

Q 8: If an abstract method declared in a non\_abstract class ,what happened ?

Ans : compile time error . The declaration of abstract method should have a abstract class .

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

Q 9 : What is multiple Interface ?

Ans : If a class implements multiple interfaces, or an interface extends multiple interfaces i.e. known as multiple inheritance.

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

Q 10 : What is Third Rule ?

Ans :

Source : <https://stackoverflow.com/questions/16329973/super-constructor-within-a-subclass-that-extends-a-subclass>

Q 11 : Can abstract class have a final method ?

Ans : NO .

Source : <https://stackoverflow.com/questions/1299398/can-an-abstract-class-have-a-final-method>

Q 12 : Can abstract class have a Constructor ?

Ans : Yes, but interface can't .

source : <https://stackoverflow.com/questions/260666/can-an-abstract-class-have-a-constructor>

Q 13 : Can Interface class be declared as final ?

Ans : No , because when the final keyword appears in a class declaration, it means that the class may never be sub-classed or overridden. This prevents over-specialization of a particular class.

Source : <https://stackoverflow.com/questions/12351646/why-interface-cannot-be-final>

Q 14 : What feature should have on a subclass of an abstract class ?

Ans : Implementation of all the abstract method.

Q 15 : Describe the types of Interface ?

Ans : a) Marker Interface

Source : <https://www.geeksforgeeks.org/marker-interface-java/>

b) Functional Interface

Source : <https://stackoverflow.com/questions/36881826/what-is-use-of-functional-interface-in-java-8/36882003>

c) Multiple Interface

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