

# Core Java Interview Questions & Answers

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**Core Java Interview Questions** - Here you can find out a list of **questions** for **core java interview** along with the answers. These questions are often asked for core java job interview.

1. What if the main method is declared as private?

The program compiles properly but at runtime it will give "Main method not public." message.

2. What is meant by pass by reference and pass by value in Java?

Pass by reference means, passing the address itself rather than passing the value. Pass by value means passing a copy of the value.

3. If you're overriding the method equals() of an object, which other method you might also consider?

hashCode()

4. What is Byte Code? What gives Java its "write once and run anywhere" nature?

All Java programs are compiled into class files that contain bytecodes. These byte codes can be run in any platform and hence java is said to be platform independent.

5. Can there be an abstract class with no abstract methods in it?

Yes

6. Can an Interface be final?

No

7. Can an Interface have an inner class?

Yes

```
public interface abc
{
    static int i=0; void dd();
}
class a1
{
    a1()
    {
        int j;
        System.out.println("inside");
    }
}
public static void main(String a1[])
```

```
{
System.out.println("in interfia");
}
}
}
```

8. Can we define private and protected modifiers for variables in interfaces?

No

9. What is Externalizable?

Externalizable is an Interface that extends Serializable Interface and sends data into Streams in Compressed Format. It has two methods, writeExternal(ObjectOutput out) and readExternal(ObjectInput in)

10. What modifiers are allowed for methods in an Interface?

Only public and abstract modifiers are allowed for methods in interfaces.

11. What is a local, member and a class variable?

Variables declared within a method are "local" variables. Variables declared within the class i.e not within any methods are "member" variables (global variables). Variables declared within the class i.e not within any methods and are defined as "static" are class variables.

12. What are the different identifier states of a Thread?

The different identifiers of a Thread are: R - Running or runnable thread, S - Suspended thread, CW - Thread waiting on a condition variable, MW - Thread waiting on a monitor lock, MS - Thread suspended waiting on a monitor lock.

13. What are some alternatives to inheritance?

Delegation is an alternative to inheritance. Delegation means that you include an instance of another class as an instance variable, and forward messages to the instance. It is often safer than inheritance because it forces you to think about each message you forward, because the instance is of a known class, rather than a new class, and because it doesn't force you to accept all the methods of the super class: you can provide only the methods that really make sense. On the other hand, it makes you write more code, and it is harder to re-use (because it is not a subclass).

14. Why isn't there operator overloading?

Because C++ has proven by example that operator overloading makes code almost impossible to maintain. In fact there very nearly wasn't even method overloading in Java, but it was thought that this was too useful for some very basic methods like print(). Note that some of the classes like DataOutputStream have unoverloaded methods like writeInt() and writeByte().

15. What does it mean that a method or field is "static"?

Static variables and methods are instantiated only once per class. In other words they are class variables, not instance variables. If you change the value of a static variable in a particular object, the value of that variable changes for all instances of that class. Static methods can be referenced with the name of the class rather than the name of a particular object of the class (though that works too). That's how library methods like

System.out.println() work. out is a static field in the java.lang.System class.

16. How do I convert a numeric IP address like 192.18.97.39 into a hostname like java.sun.com?

```
String hostname = InetAddress.getByName("192.18.97.39").getHostName();
```

17. What is the difference between JRE/JVM/JDK?

JDK is the Java Development Kit i.e. JDK is bundle of software that you can use to develop Java based software. JRE is the Java Runtime Environment i.e. JRE is an implementation of the Java Virtual Machine which actually executes Java programs. Typically, each JDK contains one (or more) JRE's along with the various development tools like the Java source compilers, bundling and deployment tools, debuggers, development libraries, etc.

18. Why do threads block on I/O?

Threads block on I/O (that is enters the waiting state) so that other threads may execute while the I/O operation is performed.

19. What is synchronization and why is it important?

With respect to multithreading, synchronization is the capability to control the access of multiple threads to shared resources. Without synchronization, it is possible for one thread to modify a shared object while another thread is in the process of using or updating that object's value. This often leads to significant errors.

20. Is null a keyword?

The null value is not a keyword.

21. Which characters may be used as the second character of an identifier, but not as the first character of an identifier?

The digits 0 through 9 may not be used as the first character of an identifier but they may be used after the first character of an identifier.

22. What modifiers may be used with an inner class that is a member of an outer class?

A (non-local) inner class may be declared as public, protected, private, static, final, or abstract.

23. How many bits are used to represent Unicode, ASCII, UTF-16, and UTF-8 characters?

Unicode requires 16 bits and ASCII require 7 bits. Although the ASCII character set uses only 7 bits, it is usually represented as 8 bits. UTF-8 represents characters using 8, 16, and 18 bit patterns. UTF-16 uses 16-bit and larger bit patterns.

24. What are wrapped classes?

Wrapped classes are classes that allow primitive types to be accessed as objects.

25. What restrictions are placed on the location of a package statement within a source code file?

A package statement must appear as the first line in a source code file (excluding blank lines and comments).

26. What is the difference between preemptive scheduling and time slicing?

Under preemptive scheduling, the highest priority task executes until it enters the waiting or dead states or a higher priority task comes into existence. Under time slicing, a task executes for a predefined slice of time and then reenters the pool of ready tasks. The scheduler then determines which task should execute next, based on priority and other factors.

27. What is a native method?

A native method is a method that is implemented in a language other than Java.

28. What are order of precedence and associativity, and how are they used?

Order of precedence determines the order in which operators are evaluated in expressions. Associativity determines whether an expression is evaluated left-to-right or right-to-left

29. What is the catch or declare rule for method declarations?

If a checked exception may be thrown within the body of a method, the method must either catch the exception or declare it in its throws clause.

30. Can an anonymous class be declared as implementing an interface and extending a class?

An anonymous class may implement an interface or extend a superclass, but may not be declared to do both.

31. What is the range of the char type?

The range of the char type is 0 to  $2^{16} - 1$ .

32. What is the difference between Vector & ArrayList?

Both Vector and arraylist are same except of one reason. Vector methods are synchronized(only one thread can execute it) where as arraylist method are not synchronized. but u asked diff. between vector and array. Vector is collection of objects and the space allocated for vector is in heap. Simple array is collection of primitive values and space allocated is not heap.

33. What is the use of anonymous class?

Anonymous classes are basically used where you want your class to do only one kind of job eg. catching the user action (i.e. he clicked on some button or change the value of any UI component). It will help you to maintain the modularity in the code within a single file.

34. What is the difference between sleep() and wait() methods?

Difference between sleep() and wait() is that since sleep() is an static method of class Thread so whenever it gets executed it puts the "thread of execution" i.e. currently executing thread to sleep and it will again goes to runnable state once the specified time is finished whereas wait() is a method of class Object so whenever it executes on an object it puts the thread who attains the object's lock in waiting stage and once this thread get notified (using notify()) by other thread or its wait time is elapsed, thread again comes to runnable state. I hope this will help you to distinguish between sleep() and wait() methods.