

Java Interview Questions and Answers

[How would you implement a thread pool?](#)

Answer :: The ThreadPool class is a generic implementation of a thread pool, which takes the following input Size of the pool to be constructed and name of the class which implements Runnable (which has a visible default constructor) and constructs a thread pool with active threads that are waiting for activation. once the threads have finished processing they come back and wait once again in the pool. [Read More](#)

[What are the advantages and disadvantages of reference counting in garbage collection?](#)

Answer :: An advantage of this scheme is that it can run in small chunks of time closely linked with the execution of the program. These characteristic makes it particularly suitable for real-time environments where the program can't be interrupted for very long time. A disadvantage of reference counting is that it does not detect cycles. A cycle is two or more objects that refer to one another. Another disadvantage is the overhead of incrementing and decrementing the reference count each time. Because of these disadvantages, reference counting currently is out of favor. [Read More](#)

[What are the differences between JIT and HotSpot?](#)

Answer :: The Hotspot VM is a collection of techniques, the most important of which is called adaptive optimization. The original JVMs interpreted byte codes one at a time. Second-generation JVMs added a JIT compiler, which compiles each method to native code upon first execution, then executes the native code. Thereafter, whenever the method is called, the native code is executed. The adaptive optimization technique used by Hotspot is a hybrid approach, one that combines byte code interpretation and run-time compilation to native code. Hotspot, unlike a regular JIT compiling VM, doesn't do "premature optimization". [Read More](#)

[What is a green thread?](#)

Answer :: Native threads can switch between threads preemptively. Green threads switch only when control is explicitly given up by a thread (Thread.yield(), Object.wait(), etc.) or a thread performs a blocking operation (read(), etc.). On multi-CPU machines, native threads can run more than one thread simultaneously by assigning different threads to different CPUs. Green threads run on only one CPU. Native threads create the appearance that many Java processes are running: each thread takes up its own entry in the process table. One clue that these are all threads of the same process is that the memory size is identical for all the threads - they are all using the same memory. The process table is not infinitely large, and processes can only create a limited number of threads before running out of system resources or hitting configured limits. [Read More](#)

[What is daemon thread?](#)

Answer :: Theads which are running on the background are called deamon threads. daemon thread is a thread which doesn't give any chance to run other threads once it enters into the run state it doesn't give any chance to run other threads. Normally it will run forever, but when all other non-daemon threads are dead, daemon thread will be killed by JVM.

.... [Read More](#)

[Why java is said to be pass-by-value ?](#)

Answer :: When assigning an object to a variable, we are actually assigning the memory address of that object

to the variable. So the value passed is actually the memory location of the object. This results in object aliasing, meaning you can have many variables referring to the same object on the heap. [Read More](#)

[What are the access modifiers available in Java](#)

Answer :: Access modifier specify where a method or attribute can be used. Public is accessible from anywhere. Protected is accessible from the same class and its subclasses. Package/Default are accessible from the same package. Private is only accessible from within the class. [Read More](#)

[What is the difference among JVM Spec, JVM Implementation, JVM Runtime ?](#)

Answer :: The JVM spec is the blueprint for the JVM generated and owned by Sun. The JVM implementation is the actual implementation of the spec by a vendor and the JVM runtime is the actual running instance of a JVM implementation [Read More](#)

[What is the difference between a switch statement and an if statement?](#)

Answer :: If statement is used to select from two alternatives. It uses a boolean expression to decide which alternative should be executed. The expression in if must be a boolean value. The switch statement is used to select from multiple alternatives. The case values must be promoted to an int value.

.... [Read More](#)

[What are synchronized methods and synchronized statements?](#)

Answer :: Synchronized methods are methods that are declared with the keyword synchronized. thread executes a synchronized method only after it has acquired the lock for the method's object or class. Synchronized statements are similar to synchronized methods. It is a block of code declared with synchronized keyword. A synchronized statement can be executed only after a thread has acquired the lock for the object or class referenced in the synchronized statement. [Read More](#)

[What are the different ways in which a thread can enter into waiting state?](#)

Answer :: There are three ways for a thread to enter into waiting state. By invoking its sleep() method, by blocking on I/O, by unsuccessfully attempting to acquire an object's lock, or by invoking an object's wait() method. [Read More](#)

[What is the difference between static and non static variables ?](#)

Answer :: A static variable is associated with the class as a whole rather than with specific instances of a class. There will be only one value for static variable for all instances of that class. Non-static variables take on unique values with each object instance. [Read More](#)

[What is the difference between notify and notifyAll method?](#)

Answer :: notify wakes up a single thread that is waiting for object's monitor. If any threads are waiting on this object, one of them is chosen to be awakened. The choice is arbitrary and occurs at the discretion of the implementation. notifyAll Wakes up all threads that are waiting on this object's monitor. A thread waits on an object's monitor by calling one of the wait methods. [Read More](#)

[What are different type of exceptions in Java?](#)

Answer :: There are two types of exceptions in java. Checked exceptions and Unchecked exceptions. Any

exception that is derived from Throwable and Exception is called checked exception except RuntimeException and its sub classes. The compiler will check whether the exception is caught or not at compile time. We need to catch the checked exception or declare in the throws clause. Any exception that is derived from Error and RuntimeException is called unchecked exception. We don't need to explicitly catch a unchecked exception. [Read More](#)

[Explain about the select method with an example?](#)

Answer :: Select part is useful in selecting text or part of the text. Arguments specified for the select command are the same as applicable to substring. First index is usually represents the start of the index. End of line makers are counted as one character. Example t.select (10,15) [Read More](#)