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Question Can there be an abstract class with no abstract methods in it? (Core Java)
Answer Yes

Question Can an Interface be final? (Core Java)
Answer No

Question Can an Interface have an inner class? (Core Java)
Answer Yes.

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

Question Can we define private and protected modifiers for variables in interfaces? (Core Java)
Answer No

Question What is the query used to display all tables names in SQL Server (Query analyzer)? (JDBC)
Answer `select * from information_schema.tables`

Question What is Externalizable? (Core Java)

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

Question What modifiers are allowed for methods in an Interface? (Core Java)
Answer Only public and abstract modifiers are allowed for methods in interfaces.

Question What is a local, member and a class variable? (Core Java)
Answer 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

Question How many types of JDBC Drivers are present and what are they? (JDBC)
Answer There are 4 types of JDBC Drivers
Type 1: JDBC-ODBC Bridge Driver
Type 2: Native API Partly Java Driver
Type 3: Network protocol Driver
Type 4: JDBC Net pure Java Driver

Question Can we implement an interface in a JSP? (JSP)
Answer No

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Question What is the difference between ServletContext and PageContext? (JSP)
Answer ServletContext: Gives the information about the container
PageContext: Gives the information about the Request

Question What is the difference in using request.getRequestDispatcher() and context.getRequestDispatcher()? (JSP)
Answer request.getRequestDispatcher(path): In order to create it we need to give the relative path of the resource
context.getRequestDispatcher(path): In order to create it we need to give the absolute path of the resource.

Question How to pass information from JSP to included JSP? (JSP)
Answer Using <%jsp:param> tag.

Question What is the difference between directive include and jsp include? (JSP)
Answer <%@ include> : Used to include static resources during translation time.
: Used to include dynamic content or static content during runtime.

Question What is the difference between RequestDispatcher and sendRedirect? (JSP)
Answer RequestDispatcher: server-side redirect with request and response objects.
sendRedirect : Client-side redirect with new request and response objects.

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Question How does JSP handle runtime exceptions? (JSP)
Answer Using errorPage attribute of page directive and also we need to specify isErrorPage=true if the current page is intended to URL redirecting of a JSP.

Question How do you delete a Cookie within a JSP? (JSP)
Answer

```
Cookie mycook = new Cookie("name","value");
response.addCookie(mycook);
Cookie killmycook = new Cookie("mycook","value");
killmycook.setMaxAge(0);
killmycook.setPath("/");
killmycook.addCookie(killmycook);
```

Question How do I mix JSP and SSI #include? (JSP)
Answer If you're just including raw HTML, use the #include directive as usual inside your .jsp file.
<!--#include file="data.inc"-->
But it's a little trickier if you want the server to evaluate any JSP code that's inside the included file. Ronel Sumibcay (ronel@LIVESOFTWARE.COM) says: If your data.inc file contains jsp code you will have to use
<%@ vinclude="data.inc" %>
The <!--#include file="data.inc"--> is used for including non-JSP files.

Question I made my class Cloneable but I still get 'Can't access protected method clone. Why? (Core Java)
Answer Yeah, some of the Java books, in particular "The Java Programming Language", imply that all you have to do in order to have your class support clone() is implement the Cloneable interface.

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Not so. Perhaps that was the intent at some point, but that's not the way it works currently. As it stands, you have to implement your own public clone() method, even if it doesn't do anything special and just calls super.clone().

Question Why is XML such an important development? (XML)
Answer It removes two constraints which were holding back Web developments:
1. dependence on a single, inflexible document type (HTML) which was being much abused for tasks it was never designed for;
2. the complexity of full SGML, whose syntax allows many powerful but hard-to-program options. XML allows the flexible development of user-defined document types. It provides a robust, non-proprietary, persistent, and verifiable file format for the storage and transmission of text and data both on and off the Web; and it removes the more complex options of SGML, making it easier to program for.

Question Are enterprise beans allowed to use Thread.sleep()? (EJB)
Answer Enterprise beans make use of the services provided by the EJB container, such as life-cycle management. To avoid conflicts with these services, enterprise beans are restricted from performing certain operations: Managing or synchronizing threads

Question Is it possible to write two EJB's that share the same Remote and Home interfaces, and have different bean classes? if so, what are the advantages/disadvantages? (EJB)
Answer It's certainly possible. In fact, there's an example that ships with the Inprise Application Server of an Account interface with

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separate implementations for CheckingAccount and SavingsAccount, one of which was CMP and one of which was BMP.

Question Is it possible to specify multiple JNDI names when deploying an EJB? (EJB)
Answer No. To achieve this you have to deploy your EJB multiple times each specifying a different JNDI name.

Question Is there any way to force an Entity Bean to store itself to the db? I don't wanna wait for the container to update the db, I want to do it NOW! Is it possible? (EJB)
Answer Specify the transaction attribute of the bean as RequiresNew. Then as per section 11.6.2.4 of the EJB v 1.1 spec EJB container automatically starts a new transaction before the method call. The container also performs the commit protocol before the method result is sent to the client.

Question I am developing a BMP Entity bean. I have noticed that whenever the create method is invoked, the ejbLoad() and the ejbStore() methods are also invoked. I feel that once my database insert is done, having to do a select and update SQL queries is major overhead. is this behavior typical of all EJB containers? Is there any way to suppress these invocations? (EJB)
Answer This is the default behaviour for EJB. The specification states that ejbLoad() will be called before every transaction and ejbStore() after every transaction. Each Vendor has optimizations, which are proprietary for this scenario.

Question Can an EJB send asynchronous notifications to its clients? (EJB)

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Answer Asynchronous notification is a known hole in the first versions of the EJB spec. The recommended solution to this is to use JMS, which is becoming available in J2EE-compliant servers. The other option, of course, is to use client-side threads and polling. This is not an ideal solution, but it's workable for many scenarios.

Question How can I access EJB from ASP? (EJB)
Answer You can use the Java 2 Platform, Enterprise Edition Client Access Services (J2EETM CAS) COM Bridge 1.0, currently downloadable from http://developer.java.sun.com/developer/earlyAccess/j2eecas/

Question Is there a guarantee of uniqueness for entity beans? (EJB)
Answer There is no such guarantee. The server (or servers) can instantiate as many instances of the same underlying Entity Bean (with the same PK) as it wants. However, each instance is guaranteed to have up-to-date data values, and be transactionally consistent, so uniqueness is not required. This allows the server to scale the system to support multiple threads, multiple concurrent requests, and multiple hosts.

Question How do the six transaction attributes map to isolation levels like "dirty read"? Will an attribute like "Required" lock out other readers until I'm finished updating? (EJB)
Answer The Transaction Attributes in EJB do not map to the Transaction Isolation levels used in JDBC. This is a common misconception. Transaction Attributes specify to the container when a Transaction should be started, suspended(paused) and committed between method invocations on Enterprise JavaBeans. For more

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details and a summary of Transaction Attributes refer to section 11.6 of the EJB 1.1 specification.

Question I have created a remote reference to an EJB in FirstServlet. Can I put the reference in a servlet session and use that in SecondServlet? (EJB)
Answer Yes. The EJB client (in this case your servlet) acquires a remote reference to an EJB from the Home Interface; that reference is serializable and can be passed from servlet to servlet. If it is a session bean, then the EJB server will consider your web client's servlet session to correspond to a single EJB session, which is usually (but not always) what you want.

Question Can the primary key in the entity bean be a Java primitive type such as int? (EJB)
Answer The primary key can't be a primitive type--use the primitive wrapper classes, instead. For example, you can use java.lang.Integer as the primary key class, but not int (it has to be a class, not a primitive)

Question What's new in the EJB 2.0 specification? (EJB)
Answer Following are the main features supported in EJB 2.0 * Integration of EJB with JMS * Message Driven Beans * Implement additional Business methods in Home interface which are not specific for bean instance. * EJB QL.

Question How many types of protocol implementations does RMI have? (RMI)

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Answer RMI has at least three protocol implementations: Java Remote Method Protocol(JRMP), Internet Inter ORB Protocol(IIOP), and Jini Extensible Remote Invocation(JERI). These are alternatives, not part of the same thing, All three are indeed layer 6 protocols for those who are still speaking OSI reference model.

Question What are the different identifier states of a Thread? (Core Java)
Answer 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

Question What is the need of Remote and Home interface. Why cant it be in one? (EJB)
Answer In a few words, I would say that the main reason is because there is a clear division of roles and responsabilities between the two interfaces.
The home interface is your way to communicate with the container, that is who is responsable of creating, locating even removing one or more beans.
The remote interface is your link to the bean, that will allow you to remotely access to all its methods and members.
As you can see there are two distinct elements (the container and the beans) and you need two different interfaces for accessing to both of them.

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Question What is the difference between Java Beans and EJB?s? (EJB)
Answer Java Beans are client-side objects and EJBs are server side object, and they have completely different development, lifecycle, purpose.

Question **Question** With regard to Entity Beans, what happens if both my EJB Server and Database crash, what will happen to unsaved changes? Is there any transactional log file used? (EJB)
Answer Actually, if your EJB server crashes, you will not even be able to make a connection to the server to perform a bean lookup, as the server will no longer be listening on the port for incoming JNDI lookup requests. You will lose any data that wasn't committed prior to the crash. This is where you should start looking into clustering your EJB server.
Another **Answer**
Hi, Any unsaved and uncommited changes are lost the moment your EJB Server crashes. If your database also crashes, then all the saved changes are also lost unless you have some backup or some recovery mechanism to retrieve the data. So consider database replication and EJB Clustering for such scenarios, though the occurence of such a thing is very very rare. Thx, Uma All databse have the concept of log files(for exampe oracle have redo log files concept). So if data bases crashes then on starting up they fill look up the log files to perform all pending jobs. But is EJB crashes, It depend upon the container how frequenlty it passivates or how frequesntly it refreshes the data with Database.

Question Can you control when passivation occurs? (EJB)

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Answer The developer, according to the specification, cannot directly control when passivation occurs. Although for Stateful Session Beans, the container cannot passivate an instance that is inside a transaction. So using transactions can be a a strategy to control passivation.
The ejbPassivate() method is called during passivation, so the developer has control over what to do during this exercise and can implement the require optimized logic.
Some EJB containers, such as BEA WebLogic, provide the ability to tune the container to minimize passivation calls.
Taken from the WebLogic 6.0 DTD -
"The passivation-strategy can be either "default" or "transaction". With the default setting the container will attempt to keep a working set of beans in the cache. With the "transaction" setting, the container will passivate the bean after every transaction (or method call for a non-transactional invocation)."

Question Does RMI-IIOP support dynamic downloading of classes? (RMI)
Answer No, RMI-IIOP doesn't support dynamic downloading of the classes as it is done with CORBA in DII (Dynamic Interface Invocation).Actually RMI-IIOP combines the usability of Java Remote Method Invocation (RMI) with the interoperability of the Internet Inter-ORB Protocol (IIOP).So in order to attain this interoperability between RMI and CORBA,some of the features that are supported by RMI but not CORBA and vice versa are eliminated from the RMI-IIOP specification.

Question Does EJB 1.1 support mandate the support for RMI-IIOP ? What is the meaning of "the client API must support the Java RMI-

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IIOP programming model for portability, but the underlying protocol can be anything" ? (EJB)

Answer EJB1.1 does mandate the support of RMI-IIOP.

OK, to **Answer** the second **Question**:

There are 2 types of implementations that an EJB Server might provide: CORBA-based EJB Servers and Proprietry EJB Servers. Both support the RMI-IIOP API but how that API is implemented is a different story. (NB: By API we mean the interface provided to the client by the stub or proxy).

A CORBA-based EJB Server actually implements its EJB Objects as CORBA Objects (it therefore encorporates an ORB and this means that EJB's can be contacted by CORBA clients (as well as RMI-IIOP clients)

A proprietry EJB still implements the RMI-IIOP API (in the client's stub) but the underlying protocol can be anything. Therefore your EJB's CANNOT be contacted by CORBA clients. The difference is that in both cases, your clients see the same API (hence, your client portability) BUT how the stubs communicate with the server is different.

Question The EJB specification says that we cannot use Bean Managed Transaction in Entity Beans. Why? (EJB)

Answer The short, practical **Answer** is... because it makes your entity beans useless as a reusable component. Also, transaction management is best left to the application server - that's what they're there for. It's all about atomic operations on your data. If an operation updates more than one entity then you want the whole thing to succeed or the whole thing to fail, nothing in between. If you put

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commits in the entity beans then it's very difficult to rollback if an error occurs at some point late in the operation.

Question Can I invoke Runtime.gc() in an EJB? (EJB)
Answer You shouldn't.
What will happen depends on the implementation, but the call will most likely be ignored. You should leave system level management like garbage collection for the container to deal with. After all, that's part of the benefit of using EJBs, you don't have to manage resources yourself.

Question What is clustering? What are the different algorithms used for clustering? (EJB)
Answer Clustering is grouping machines together to transparantly provide enterprise services.The client does not now the difference between approaching one server or approaching a cluster of servers.Clusters provide two benefits: scalability and high availability. Further information can be found in the JavaWorld article J2EE Clustering.

Question What is the advantage of using Entity bean for database operations, over directly using JDBC API to do database operations? When would I use one over the other? (EJB)
Answer Entity Beans actually represents the data in a database. It is not that Entity Beans replaces JDBC API. There are two types of Entity Beans Container Managed and Bean Mananged. In Container Managed Entity Bean - Whenever the instance of the bean is created the container automatically retrieves the data from the DB/Persistance storage and assigns to the object variables in bean for user to manipulate or use them. For this the developer needs to

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map the fields in the database to the variables in deployment descriptor files (which varies for each vendor).
In the Bean Managed Entity Bean - The developer has to specifically make connection, retrive values, assign them to the objects in the ejbLoad() which will be called by the container when it instatiates a bean object. Similarly in the ejbStore() the container saves the object values back the the persistance storage. ejbLoad and ejbStore are callback methods and can be only invoked by the container. Apart from this, when you use Entity beans you dont need to worry about database transaction handling, database connection pooling etc. which are taken care by the ejb container. But in case of JDBC you have to explicitly do the above features. what suresh told is exactly perfect. ofcourse, this comes under the database transations, but i want to add this. the great thing about the entity beans of container managed, whenever the connection is failed during the transaction processing, the database consistancy is mantained automatically. the container writes the data stored at persistant storage of the entity beans to the database again to provide the database consistancy. where as in jdbc api, we, developers has to do manually.

Question What is the role of serialization in EJB? (EJB)
Answer A big part of EJB is that it is a framework for underlying RMI: remote method invocation. You're invoking methods remotely from JVM space 'A' on objects which are in JVM space 'B' -- possibly running on another machine on the network.
To make this happen, all arguments of each method call must have their current state plucked out of JVM 'A' memory, flattened into a byte stream which can be sent over a TCP/IP network connection, and then deserialized for reincarnation on the other end in JVM 'B' where the actual method call takes place.

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If the method has a return value, it is serialized up for streaming back to JVM A. Thus the requirement that all EJB methods arguments and return values must be serializable. The easiest way to do this is to make sure all your classes implement java.io.Serializable.

Question What is EJB QL? (EJB)
Answer EJB QL is a Query Language provided for navigation across a network of enterprise beans and dependent objects defined by means of container managed persistence. EJB QL is introduced in the EJB 2.0 specification. The EJB QL query language defines finder methods for entity beans with container managed persistenceand is portable across containers and persistence managers. EJB QL is used for queries of two types of finder methods: Finder methods that are defined in the home interface of an entity bean and which return entity objects. Select methods, which are not exposed to the client, but which are used by the Bean Provider to select persistent values that are maintained by the Persistence Manager or to select entity objects that are related to the entity bean on which the query is defined.

Question What is the fastest type of JDBC driver? (JDBC)
Answer JDBC driver performance will depend on a number of issues:
(a) the quality of the driver code,
(b) the size of the driver code,
(c) the database server and its load,
(d) network topology,
(e) the number of times your request is translated to a different API.
In general, all things being equal, you can assume that the more your request and response change hands, the slower it will be. This

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means that Type 1 and Type 3 drivers will be slower than Type 2 drivers (the database calls are make at least three translations versus two), and Type 4 drivers are the fastest (only one translation).

Question Request parameter How to find whether a parameter exists in the request object? (Servlets)
Answer 1.boolean hasFoo = !(request.getParameter("foo") == null || request.getParameter("foo").equals(""));
2. boolean hasParameter = request.getParameterMap().contains(theParameter);
(which works in Servlet 2.3+)

Question How can I send user authentication information while makingURLConnection? (Servlets)
Answer You'll want to use HttpURLConnection.setRequestProperty and set all the appropriate headers to HTTP authorization.

Question What are some alternatives to inheritance? (Core Java)
Answer 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).

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Question Why isn't there operator overloading? (Core Java)
Answer 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().

Question What does it mean that a method or field is "static"? (Core Java)
Answer 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.

Question How do I convert a numeric IP address like 192.18.97.39 into a hostname like java.sun.com? (Networking)
Answer String hostname = InetAddress.getByName("192.18.97.39").getHostName();

Question Difference between JRE And JVM AND JDK (Core Java)
Answer

Question Why do threads block on I/O? (Core Java)

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Answer Threads block on i/o (that is enters the waiting state) so that other threads may execute while the i/o Operation is performed.

Question What is synchronization and why is it important? (Core Java)
Answer 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.

Question Is null a keyword? (Core Java)
Answer The null value is not a keyword.

Question Which characters may be used as the second character of an identifier,but not as the first character of an identifier? (Core Java)
Answer 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.

Question What modifiers may be used with an inner class that is a member of an outer class? (Core Java)
Answer A (non-local) inner class may be declared as public, protected, private, static, final, or abstract.

Question How many bits are used to represent Unicode, ASCII, UTF-16, and UTF-8 characters? (Core Java)

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Answer 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.

Question What are wrapped classes? (Core Java)
Answer Wrapped classes are classes that allow primitive types to be accessed as objects.

Question What restrictions are placed on the location of a package statement within a source code file? (Core Java)
Answer A package statement must appear as the first line in a source code file (excluding blank lines and comments).

Question What is the difference between preemptive scheduling and time slicing? (Core Java)
Answer 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.

Question What is a native method? (Core Java)
Answer A native method is a method that is implemented in a language other than Java.

Question What are order of precedence and associativity, and how are they used? (Core Java)

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

Question What is the catch or declare rule for method declarations? (Core Java)
Answer 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.

Question Can an anonymous class be declared as implementing an interface and extending a class? (Core Java)
Answer An anonymous class may implement an interface or extend a superclass, but may not be declared to do both.

Question What is the range of the char type? (Core Java)
Answer The range of the char type is 0 to 2^16 - 1.

Question What is the purpose of finalization? (Core Java)
Answer The purpose of finalization is to give an unreachable object the opportunity to perform any cleanup processing before the object is garbage collected.

Question What is the difference between the Boolean & operator and the && operator? (Core Java)
Answer If an expression involving the Boolean & operator is evaluated, both operands are evaluated. Then the & operator is applied to the operand. When an expression involving the && operator is evaluated, the first operand is evaluated. If the first operand returns a value of true then the second operand is

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evaluated. The && operator is then applied to the first and second operands. If the first operand evaluates to false, the evaluation of the second operand is skipped.

Question How many times may an object's finalize() method be invoked by the garbage collector? (Core Java)
Answer An object's finalize() method may only be invoked once by the garbage collector.

Question What is the purpose of the finally clause of a try-catch-finally statement? (Core Java)
Answer The finally clause is used to provide the capability to execute code no matter whether or not an exception is thrown or caught.

Question What is the argument type of a program's main() method? (Core Java)
Answer A program's main() method takes an argument of the String[] type.

Question Which Java operator is right associative? (Core Java)
Answer The = operator is right associative.

Question Can a double value be cast to a byte? (Core Java)
Answer Yes, a double value can be cast to a byte.

Question What is the difference between a break statement and a continue statement? (Core Java)
Answer A break statement results in the termination of the statement to which it applies (switch, for, do, or while). A continue

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statement is used to end the current loop iteration and return control to the loop statement.

Question What must a class do to implement an interface? (Core Java)
Answer It must provide all of the methods in the interface and identify the interface in its implements clause.

Question What is the advantage of the event-delegation model over the earlier event-inheritance model? (Core Java)
Answer The event-delegation model has two advantages over the event-inheritance model. First, it enables event handling to be handled by objects other than the ones that generate the events (or their containers). This allows a clean separation between a component's design and its use. The other advantage of the event-delegation model is that it performs much better in applications where many events are generated. This performance improvement is due to the fact that the event-delegation model does not have to repeatedly process unhandled events, as is the case of the event-inheritance model.

Question How are commas used in the intialization and iteration parts of a for statement? (Core Java)
Answer Commas are used to separate multiple statements within the initialization and iteration parts of a for statement.

Question What is an abstract method? (Core Java)
Answer An abstract method is a method whose implementation is deferred to a subclass.

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Question What value does read() return when it has reached the end of a file? (Core Java)
Answer The read() method returns -1 when it has reached the end of a file.

Question Can a Byte object be cast to a double value? (Core Java)
Answer No, an object cannot be cast to a primitive value.

Question What is the difference between a static and a non-static inner class? (Core Java)
Answer A non-static inner class may have object instances that are associated with instances of the class's outer class. A static inner class does not have any object instances.

Question If a variable is declared as private, where may the variable be accessed? (Core Java)
Answer A private variable may only be accessed within the class in which it is declared.

Question What is an object's lock and which object's have locks? (Core Java)
Answer An object's lock is a mechanism that is used by multiple threads to obtain synchronized access to the object. A thread may execute a synchronized method of an object only after it has acquired the object's lock. All objects and classes have locks. A class's lock is acquired on the class's Class object.

Question What is the % operator? (Core Java)

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Answer It is referred to as the modulo or remainder operator. It returns the remainder of dividing the first operand by the second operand.

Question When can an object reference be cast to an interface reference? (Core Java)
Answer An object reference be cast to an interface reference when the object implements the referenced interface.

Question Which class is extended by all other classes? (Core Java)
Answer The Object class is extended by all other classes.

Question Can an object be garbage collected while it is still reachable? (Core Java)
Answer A reachable object cannot be garbage collected. Only unreachable objects may be garbage collected.

Question Is the ternary operator written x : y ? z or x ? y : z ? (Core Java)
Answer It is written x ? y : z.

Question How is rounding performed under integer division? (Core Java)
Answer The fractional part of the result is truncated. This is known as rounding toward zero.

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Question What is the difference between the Reader/Writer class hierarchy and the InputStream/OutputStream class hierarchy? (Core Java)
Answer The Reader/Writer class hierarchy is character-oriented, and the InputStream/OutputStream class hierarchy is byte-oriented.

Question What classes of exceptions may be caught by a catch clause? (Core Java)
Answer A catch clause can catch any exception that may be assigned to the Throwable type. This includes the Error and Exception types.

Question If a class is declared without any access modifiers, where may the class be accessed? (Core Java)
Answer A class that is declared without any access modifiers is said to have package access. This means that the class can only be accessed by other classes and interfaces that are defined within the same package.

Question Does a class inherit the constructors of its superclass? (Core Java)
Answer A class does not inherit constructors from any of its superclasses.

Question What is the purpose of the System class? (Core Java)
Answer The purpose of the System class is to provide access to system resources.

Question Name the eight primitive Java types. (Core Java)

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Answer The eight primitive types are byte, char, short, int, long, float, double, and boolean.

Question Which class should you use to obtain design information about an object? (Core Java)
Answer The Class class is used to obtain information about an object's design.

Question Is "abc" a primitive value? (Core Java)
Answer The String literal "abc" is not a primitive value. It is a String object.

Question What restrictions are placed on the values of each case of a switch statement? (Core Java)
Answer During compilation, the values of each case of a switch statement must evaluate to a value that can be promoted to an int value.

Question What modifiers may be used with an interface declaration? (Core Java)
Answer An interface may be declared as public or abstract.

Question Is a class a subclass of itself? (Core Java)
Answer A class is a subclass of itself.

Question What is the difference between a while statement and a do statement? (Core Java)
Answer A while statement checks at the beginning of a loop to see whether the next loop iteration should occur. A do statement checks at the end of a loop to see whether the next iteration of a loop

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should occur. The do statement will always execute the body of a loop at least once.

Question What modifiers can be used with a local inner class? (Core Java)
Answer A local inner class may be final or abstract.

Question What is the purpose of the File class? (Core Java)
Answer The File class is used to create objects that provide access to the files and directories of a local file system.

Question Can an exception be rethrown? (Core Java)
Answer Yes, an exception can be rethrown.

Question When does the compiler supply a default constructor for a class? (Core Java)
Answer The compiler supplies a default constructor for a class if no other constructors are provided.

Question If a method is declared as protected, where may the method be accessed? (Core Java)
Answer A protected method may only be accessed by classes or interfaces of the same package or by subclasses of the class in which it is declared.

Question Which non-Unicode letter characters may be used as the first character of an identifier? (Core Java)
Answer The non-Unicode letter characters $ and _ may appear as the first character of an identifier

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Question What restrictions are placed on method overloading? (Core Java)
Answer Two methods may not have the same name and argument list but different return types.

Question What is casting? (Core Java)
Answer There are two types of casting, casting between primitive numeric types and casting between object references. Casting between numeric types is used to convert larger values, such as double values, to smaller values, such as byte values. Casting between object references is used to refer to an object by a compatible class, interface, or array type reference.

Question What is the return type of a program's main() method? (Core Java)
Answer A program's main() method has a void return type.

Question What class of exceptions are generated by the Java run-time system? (Core Java)
Answer The Java runtime system generates RuntimeException and Error exceptions.

Question What class allows you to read objects directly from a stream? (Core Java)
Answer The ObjectInputStream class supports the reading of objects from input streams.
Question What is the difference between a field variable and a local variable? (Core Java)

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Answer A field variable is a variable that is declared as a member of a class. A local variable is a variable that is declared local to a method.

Question How are this() and super() used with constructors? (Core Java)
Answer this() is used to invoke a constructor of the same class. super() is used to invoke a superclass constructor.

Question What is the relationship between a method's throws clause and the exceptions that can be thrown during the method's execution? (Core Java)
Answer A method's throws clause must declare any checked exceptions that are not caught within the body of the method.

Question Why are the methods of the Math class static? (Core Java)
Answer So they can be invoked as if they are a mathematical code library.

Question What are the legal operands of the instanceof operator? (Core Java)
Answer The left operand is an object reference or null value and the right operand is a class, interface, or array type.

Question What an I/O filter? (Core Java)
Answer An I/O filter is an object that reads from one stream and writes to another, usually altering the data in some way as it is passed from one stream to another.

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Question If an object is garbage collected, can it become reachable again? (Core Java)
Answer Once an object is garbage collected, it ceases to exist. It can no longer become reachable again.

Question What are E and PI? (Core Java)
Answer E is the base of the natural logarithm and PI is mathematical value pi.

Question Are true and false keywords? (Core Java)
Answer The values true and false are not keywords.

Question What is the difference between the File and RandomAccessFile classes? (Core Java)
Answer The File class encapsulates the files and directories of the local file system. The RandomAccessFile class provides the methods needed to directly access data contained in any part of a file.

Question What happens when you add a double value to a String? (Core Java)
Answer The result is a String object.

Question What is your platform's default character encoding? (Core Java)
Answer If you are running Java on English Windows platforms, it is probably Cp1252. If you are running Java on English Solaris platforms, it is most likely 8859_1.

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Question Which package is always imported by default? (Core Java)
Answer The java.lang package is always imported by default.

Question What interface must an object implement before it can be written to a stream as an object? (Core Java)
Answer An object must implement the Serializable or Externalizable interface before it can be written to a stream as an object.

Question How can my application get to know when a HttpSession is removed? (JSP)
Answer Define a Class HttpSessionNotifier which implements HttpSessionBindingListener and implement the functionality what you need in valueUnbound() method.
Create an instance of that class and put that instance in HttpSession.

Question Whats the difference between notify() and notifyAll()? (Core Java)
Answer notify() is used to unblock one waiting thread; notifyAll() is used to unblock all of them. Using notify() is preferable (for efficiency) when only one blocked thread can benefit from the change (for example, when freeing a buffer back into a pool). notifyAll() is necessary (for correctness) if multiple threads should resume (for example, when releasing a "writer" lock on a file might permit all "readers" to resume).

Question Why can't I say just abs() or sin() instead of Math.abs() and Math.sin()? (Core Java)

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Answer The import statement does not bring methods into your local name space. It lets you abbreviate class names, but not get rid of them altogether. That's just the way it works, you'll get used to it. It's really a lot safer this way.
 However, there is actually a little trick you can use in some cases that gets you what you want. If your top-level class doesn't need to inherit from anything else, make it inherit from java.lang.Math. That *does* bring all the methods into your local name space. But you can't use this trick in an applet, because you have to inherit from java.awt.Applet. And actually, you can't use it on java.lang.Math at all, because Math is a "final" class which means it can't be extended.

Question Is is possible for an EJB client to marshall an object of class java.lang.Class to an EJB? (EJB)
Answer Technically yes, spec. compliant NO! - The enterprise bean must not attempt to query a class to obtain information about the declared members that are not otherwise accessible to the enterprise bean because of the security rules of the Java language.

Question Is it legal to have static initializer blocks in EJB? (EJB)
Answer Although technically it is legal, static initializer blocks are used to execute some piece of code before executing any constructor or method while instantiating a class. Static initializer blocks are also typically used to initialize static fields - which may be illegal in EJB if they are read/write - In EJB this can be achieved by including the code in either the ejbCreate(), setSessionContext() or setEntityContext() methods.

Question How can I implement a thread-safe JSP page? (JSP)

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Answer You can make your JSPs thread-safe by having them implement the SingleThreadModel interface. This is done by adding the directive <%@ page isThreadSafe="false" % > within your JSP page.

Question Is it possible to stop the execution of a method before completion in a SessionBean? (EJB)
Answer Stopping the execution of a method inside a Session Bean is not possible without writing code inside the Session Bean. This is because you are not allowed to access Threads inside an EJB.

Question What is the default transaction attribute for an EJB? (EJB)
Answer There is no default transaction attribute for an EJB. Section 11.5 of EJB v1.1 spec says that the deployer must specify a value for the transaction attribute for those methods having container managed transaction. In weblogic, the default transaction attribute for EJB is SUPPORTS.

Question What is the difference between session and entity beans? When should I use one or the other? (EJB)
Answer An entity bean represents persistent global data from the database; a session bean represents transient user-specific data that will die when the user disconnects (ends his session). Generally, the session beans implement business methods (e.g. Bank.transferFunds) that call entity beans (e.g. Account.deposit, Account.withdraw)

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Question Is there any default cache management system with Entity beans ? In other words whether a cache of the data in database will be maintained in EJB ? (EJB)
Answer Caching data from a database inside the Application Server are what Entity EJB's are used for.The ejbLoad() and ejbStore() methods are used to synchronize the Entity Bean state with the persistent storage(database). Transactions also play an important role in this scenario. If data is removed from the database, via an external application - your Entity Bean can still be "alive" the EJB container. When the transaction commits, ejbStore() is called and the row will not be found, and the transcation rolled back.

Question Why is ejbFindByPrimaryKey mandatory? (EJB)
Answer An Entity Bean represents persistent data that is stored outside of the EJB Container/Server. The ejbFindByPrimaryKey is a method used to locate and load an Entity Bean into the container, similar to a SELECT statement in SQL. By making this method mandatory, the client programmer can be assured that if they have the primary key of the Entity Bean, then they can retrieve the bean without having to create a new bean each time - which would mean creating duplications of persistent data and break the integrity of EJB.

Question Why do we have a remove method in both EJBHome and EJBObject? (EJB)
Answer With the EJBHome version of the remove, you are able to delete an entity bean without first instantiating it (you can provide a PrimaryKey object as a parameter to the remove method). The home version only works for entity beans. On the other hand, the Remote interface version works on an entity bean that you have already

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instantiated. In addition, the remote version also works on session beans (stateless and statefull) to inform the container of your loss of interest in this bean.

Question How can I call one EJB from inside of another EJB? (EJB)
Answer EJBs can be clients of other EJBs. It just works. Use JNDI to locate the Home Interface of the other bean, then acquire an instance reference, and so forth.

Question What is the difference between a Server, a Container, and a Connector? (EJB)
Answer An EJB server is an application, usually a product such as BEA WebLogic, that provides (or should provide) for concurrent client connections and manages system resources such as threads, processes, memory, database connections, network connections, etc. An EJB container runs inside (or within) an EJB server, and provides deployed EJB beans with transaction and security management, etc. The EJB container insulates an EJB bean from the specifics of an underlying EJB server by providing a simple, standard API between the EJB bean and its container.
A Connector provides the ability for any Enterprise Information System (EIS) to plug into any EJB server which supports the Connector architecture. See http://java.sun.com/j2ee/connector/ for more indepth information on Connectors.

Question How is persistence implemented in enterprise beans? (EJB)

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Answer Persistence in EJB is taken care of in two ways, depending on how you implement your beans: container managed persistence (CMP) or bean managed persistence (BMP)
For CMP, the EJB container which your beans run under takes care of the persistence of the fields you have declared to be persisted with the database - this declaration is in the deployment descriptor. So, anytime you modify a field in a CMP bean, as soon as the method you have executed is finished, the new data is persisted to the database by the container.
For BMP, the EJB bean developer is responsible for defining the persistence routines in the proper places in the bean, for instance, the ejbCreate(), ejbStore(), ejbRemove() methods would be developed by the bean developer to make calls to the database. The container is responsible, in BMP, to call the appropriate method on the bean. So, if the bean is being looked up, when the create() method is called on the Home interface, then the container is responsible for calling the ejbCreate() method in the bean, which should have functionality inside for going to the database and looking up the data.

Question What is an EJB Context? (EJB)
Answer EJBContext is an interface that is implemented by the container, and it is also a part of the bean-container contract. Entity beans use a subclass of EJBContext called EntityContext. Session beans use a subclass called SessionContext. These EJBContext objects provide the bean class with information about its container, the client using the bean and the bean itself. They also provide other functions. See the API docs and the spec for more details.

Question Is method overloading allowed in EJB? (EJB)

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Answer Yes you can overload methods

Question Should synchronization primitives be used on bean methods? (EJB)
Answer No. The EJB specification specifically states that the enterprise bean is not allowed to use thread primitives. The container is responsible for managing concurrent access to beans at runtime

Question Are we allowed to change the transaction isolation property in middle of a transaction? (EJB)
Answer No. You cannot change the transaction isolation level in the middle of transaction.

Question For Entity Beans, What happens to an instance field not mapped to any persistent storage,when the bean is passivated? (EJB)
Answer The specification infers that the container never serializes an instance of an Entity bean (unlike stateful session beans). Thus passivation simply involves moving the bean from the "ready" to the "pooled" bin. So what happens to the contents of an instance variable is controlled by the programmer. Remember that when an entity bean is passivated the instance gets logically disassociated from it's remote object.
Be careful here, as the functionality of passivation/activation for Stateless Session, Stateful Session and Entity beans is completely different. For entity beans the ejbPassivate method notifies the entity bean that it is being disassociated with a particular entity prior to reuse or for dereferenc.

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Question What is a Message Driven Bean, What functions does a message driven bean have and how do they work in collaboration with JMS? (EJB)

Answer Message driven beans are the latest addition to the family of component bean types defined by the EJB specification. The original bean types include session beans, which contain business logic and maintain a state associated with client sessions, and entity beans, which map objects to persistent data.

Message driven beans will provide asynchrony to EJB based applications by acting as JMS message consumers. A message bean is associated with a JMS topic or queue and receives JMS messages sent by EJB clients or other beans.

Unlike entity beans and session beans, message beans do not have home or remote interfaces. Instead, message driven beans are instantiated by the container as required. Like stateless session beans, message beans maintain no client-specific state, allowing the container to optimally manage a pool of message-bean instances.

Clients send JMS messages to message beans in exactly the same manner as they would send messages to any other JMS destination. This similarity is a fundamental design goal of the JMS capabilities of the new specification.

To receive JMS messages, message driven beans implement the javax.jms.MessageListener interface, which defines a single "onMessage()" method.

When a message arrives, the container ensures that a message bean corresponding to the message topic/queue exists (instantiating it if necessary), and calls its onMessage method passing the client's message as the single argument. The message bean's implementation of this method contains the business logic required to process the message.

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Note that session beans and entity beans are not allowed to function as message beans.

Question Does RMI-IIOP support code downloading for Java objects sent by value across an IIOP connection in the same way as RMI does across a JRMP connection? (RMI)
Answer Yes. The JDK 1.2 supports the dynamic class loading.

Question The EJB container implements the EJBHome and EJBObject classes. For every request from a unique client, does the container create a separate instance of the generated EJBHome and EJBObject classes? (EJB)
Answer The EJB container maintains an instance pool. The container uses these instances for the EJB Home reference irrespective of the client request. while refering the EJB Object classes the container creates a separate instance for each client request.
Another **Answer**
The instance pool maintainence is up to the implementation of the container. If the container provides one, it is available otherwise it is not mandatory for the provider to implement it. Having said that, yes most of the container providers implement the pooling functionality to increase the performance of the app server. How it is implemented, it is again up to the implementer.

Question What is the advantage of puttting an Entity Bean instance from the "Ready State" to "Pooled state"? (EJB)
Answer The idea of the "Pooled State" is to allow a container to maintain a pool of entity beans that has been created, but has not been yet "synchronized" or assigned to an EJBObject. This mean that

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the instances do represent entity beans, but they can be used only for serving Home methods (create or findBy), since those methods do not relay on the specific values of the bean. All these instances are, in fact, exactly the same, so, they do not have meaningful state. Jon Thorarinsson has also added: It can be looked at it this way:
If no client is using an entity bean of a particular type there is no need for cachig it (the data is persisted in the database).
Therefore, in such cases, the container will, after some time, move the entity bean from the "Ready State" to the "Pooled state" to save memory.
Then, to save additional memory, the container may begin moving entity beans from the "Pooled State" to the "Does Not Exist State", because even though the bean's cache has been cleared, the bean still takes up some memory just being in the "Pooled State".

Question Can a Session Bean be defined without ejbCreate() method? (EJB)
Answer The ejbCreate() methods is part of the bean's lifecycle, so, the compiler will not return an error because there is no ejbCreate() method.
However, the J2EE spec is explicit:
the home interface of a Stateless Session Bean must have a single create() method with no arguments, while the session bean class must contain exactly one ejbCreate() method, also without arguments.
Stateful Session Beans can have arguments (more than one create method) stateful beans can contain multiple ejbCreate() as long as they match with the home interface definition
You need a reference to your EJBObject to startwith. For that Sun insists on putting a method for creating that reference (create method

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in the home interface). The EJBObject does matter here. Not the actual bean.

Question Is it possible to share an HttpSession between a JSP and EJB? What happens when I change a value in the HttpSession from inside an EJB? (EJB)

Answer You can pass the HttpSession as parameter to an EJB method, only if all objects in session are serializable.This has to be consider as "passed-by-value", that means that it's read-only in the EJB. If anything is altered from inside the EJB, it won't be reflected back to the HttpSession of the Servlet Container.The "pass-by-reference" can be used between EJBs Remote Interfaces, as they are remote references. While it IS possible to pass an HttpSession as a parameter to an EJB object, it is considered to be "bad practice (1)" in terms of object oriented design. This is because you are creating an unnecessary coupling between back-end objects (ejbs) and front-end objects (HttpSession). Create a higher-level of abstraction for your ejb's api. Rather than passing the whole, fat, HttpSession (which carries with it a bunch of http semantics), create a class that acts as a value object (or structure) that holds all the data you need to pass back and forth between front-end/back-end. Consider the case where your ejb needs to support a non-http-based client. This higher level of abstraction will be flexible enough to support it. (1) Core J2EE design patterns (2001)

Question Is there any way to read values from an entity bean without locking it for the rest of the transaction (e.g. read-only transactions)? We have a key-value map bean which deadlocks during some concurrent reads. Isolation levels seem to affect the database only, and we need to work within a transaction. (EJB)

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Answer The only thing that comes to (my) mind is that you could write a 'group accessor' - a method that returns a single object containing all of your entity bean's attributes (or all interesting attributes). This method could then be placed in a 'Requires New' transaction. This way, the current transaction would be suspended for the duration of the call to the entity bean and the entity bean's fetch/operate/commit cycle will be in a separate transaction and any locks should be released immediately. Depending on the granularity of what you need to pull out of the map, the group accessor might be overkill.

Question What is the difference between a "Coarse Grained" Entity Bean and a "Fine Grained" Entity Bean? (EJB)

Answer A 'fine grained' entity bean is pretty much directly mapped to one relational table, in third normal form.

A 'coarse grained' entity bean is larger and more complex, either because its attributes include values or lists from other tables, or because it 'owns' one or more sets of dependent objects. Note that the coarse grained bean might be mapped to a single table or flat file, but that single table is going to be pretty ugly, with data copied from other tables, repeated field groups, columns that are dependent on non-key fields, etc.

Fine grained entities are generally considered a liability in large systems because they will tend to increase the load on several of the EJB server's subsystems (there will be more objects exported through the distribution layer, more objects participating in transactions, more skeletons in memory, more EJB Objects in memory, etc.) The other side of the coin is that the 1.1 spec doesn't mandate CMP Error! No index entries found.support for dependent objects (or even indicate how they should be supported), which

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makes it more difficult to do coarse grained objects with CMP. The EJB 2.0 specification improves this in a huge way.

Question What is EJBDoclet? (EJB)
Answer EJBDoclet is an open source JavaDoc doclet that generates a lot of the EJB related source files from custom JavaDoc comments tags embedded in the EJB source file.

Question Wha is the output from System.out.println("Hello"+null); (Core Java)
Answer Hellonull

Question Can we use the constructor, instead of init(), to initialize servlet? (Servlets)
Answer Yes , of course you can use the constructor instead of init(). There's nothing to stop you. But you shouldn't. The original reason for init() was that ancient versions of Java couldn't dynamically invoke constructors with arguments, so there was no way to give the constructur a ServletConfig. That no longer applies, but servlet containers still will only call your no-arg constructor. So you won't have access to a ServletConfig or ServletContext.
Question How can a servlet refresh automatically if some new data has entered the database? (Servlets)
Answer You can use a client-side Refresh or Server Push

Question The code in a finally clause will never fail to execute, right? (Servlets)
Answer Using System.exit(1); in try block will not allow finally code to execute.

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Question Why are there no global variables in Java? (Core Java)
Answer Global variables are considered bad form for a variety of reasons:
• Adding state variables breaks referential transparency (you no longer can understand a statement or expression on its own: you need to understand it in the context of the settings of the global variables).
• State variables lessen the cohesion of a program: you need to know more to understand how something works. A major point of Object-Oriented programming is to break up global state into more easily understood collections of local state.
• When you add one variable, you limit the use of your program to one instance. What you thought was global, someone else might think of as local: they may want to run two copies of your program at once.
For these reasons, Java decided to ban global variables.

Question What does it mean that a class or member is final? (Core Java)
Answer A final class can no longer be subclassed. Mostly this is done for security reasons with basic classes like String and Integer. It also allows the compiler to make some optimizations, and makes thread safety a little easier to achieve.
Methods may be declared final as well. This means they may not be overridden in a subclass.
Fields can be declared final, too. However, this has a completely different meaning. A final field cannot be changed after it's initialized, and it must include an initializer statement where it's declared. For example,
public final double c = 2.998;

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It's also possible to make a static field final to get the effect of C++'s const statement or some uses of C's #define, e.g.
public static final double c = 2.998;

Question What does it mean that a method or class is abstract? (Core Java)

Answer An abstract class cannot be instantiated. Only its subclasses can be instantiated. You indicate that a class is abstract with the abstract keyword like this:
public abstract class Container extends Component {
Abstract classes may contain abstract methods. A method declared abstract is not actually implemented in the current class. It exists only to be overridden in subclasses. It has no body. For example,
public abstract float price();
Abstract methods may only be included in abstract classes. However, an abstract class is not required to have any abstract methods, though most of them do.
Each subclass of an abstract class must override the abstract methods of its superclasses or itself be declared abstract.

Question what is a transient variable? (Core Java)

Answer transient variable is a variable that may not be serialized.

Question How are Observer and Observable used? (Core Java)

Answer Objects that subclass the Observable class maintain a list of observers. When an Observable object is updated it invokes the update() method of each of its observers to notify the observers that it has changed state. The Observer interface is implemented by objects that observe Observable objects.

Question Can a lock be acquired on a class? (Core Java)

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Answer Yes, a lock can be acquired on a class. This lock is acquired on the class's Class object.

Question What state does a thread enter when it terminates its processing? (Core Java)
Answer When a thread terminates its processing, it enters the dead state.

Question How does Java handle integer overflows and underflows? (Core Java)
Answer It uses those low order bytes of the result that can fit into the size of the type allowed by the operation.

Question What is the difference between the >> and >>> operators? (Core Java)
Answer The >> operator carries the sign bit when shifting right. The >>> zero-fills bits that have been shifted out.

Question Is sizeof a keyword? (Core Java)
Answer The sizeof operator is not a keyword.
Question Does garbage collection guarantee that a program will not run out of memory? (Core Java)
Answer Garbage collection does not guarantee that a program will not run out of memory. It is possible for programs to use up memory resources faster than they are garbage collected. It is also possible for programs to create objects that are not subject to garbage collection

Question Can an object's finalize() method be invoked while it is reachable? (Core Java)

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Answer An object's finalize() method cannot be invoked by the garbage collector while the object is still reachable. However, an object's finalize() method may be invoked by other objects.

Question What value does readLine() return when it has reached the end of a file? (Core Java)
Answer The readLine() method returns null when it has reached the end of a file.

Question Can a for statement loop indefinitely? (Core Java)
Answer Yes, a for statement can loop indefinitely. For example, consider the following: for(;;) ;

Question To what value is a variable of the String type automatically initialized? (Core Java)
Answer The default value of an String type is null.

Question What is a task's priority and how is it used in scheduling? (Core Java)
Answer A task's priority is an integer value that identifies the relative order in which it should be executed with respect to other tasks. The scheduler attempts to schedule higher priority tasks before lower priority tasks.

Question What is the range of the short type? (Core Java)
Answer The range of the short type is -(2^15) to 2^15 - 1.

Question What is the purpose of garbage collection? (Core Java)

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Answer The purpose of garbage collection is to identify and discard objects that are no longer needed by a program so that their resources may be reclaimed and reused.

Question How may messaging models do JMS provide for and what are they? (JMS)
Answer JMS provide for two messaging models, publish-and-subscribe and point-to-point queuing

Question What information is needed to create a TCP Socket? (Networking)
Answer The Local System?s IP Address and Port Number. And the Remote System's IPAddress and Port Number.

Question What Class.forName will do while loading drivers? (JDBC)
Answer It is used to create an instance of a driver and register it with the DriverManager. When you have loaded a driver, it is available for making a connection with a DBMS.

Question How to Retrieve Warnings? (JDBC)
Answer SQLWarning objects are a subclass of SQLException that deal with database access warnings. Warnings do not stop the execution of an application, as exceptions do; they simply alert the user that something did not happen as planned. A warning can be reported on a Connection object, a Statement object (including PreparedStatement and CallableStatement objects), or a ResultSet object. Each of these classes has a getWarnings method, which you must invoke in order to see the first warning reported on the calling object

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E.g.

```
SQLWarning warning = stmt.getWarnings();
if (warning != null) {
     while (warning != null) {
     System.out.println("Message: " +
warning.getMessage());
     System.out.println("SQLState: " +
warning.getSQLState());
     System.out.print("Vendor error code: ");
     System.out.println(warning.getErrorCode());
     warning = warning.getNextWarning();
}
}
```

Question How many JSP scripting elements are there and what are they? (JSP)
Answer There are three scripting language elements:
declarations
scriptlets
expressions

Question In the Servlet 2.4 specification SingleThreadModel has been deprecates, why? (JSP)
Answer Because it is not practical to have such model. Whether you set isThreadSafe to true or false, you should take care of concurrent client requests to the JSP page by synchronizing access to any shared objects defined at the page level.

Question what are stored procedures? How is it useful? (JDBC)

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Answer A stored procedure is a set of statements/commands which reside in the database. The stored procedure is precompiled and saves the database the effort of parsing and compiling sql statements everytime a query is run. Each Database has it's own stored procedure language, usually a variant of C with a SQL preproceesor. Newer versions of db's support writing stored procs in Java and Perl too.
Before the advent of 3-tier/n-tier architecture it was pretty common for stored procs to implement the business logic(A lot of systems still do it). The biggest advantage is of course speed. Also certain kind of data manipulations are not achieved in SQL. Stored procs provide a mechanism to do these manipulations. Stored procs are also useful when you want to do Batch updates/exports/houseKeeping kind of stuff on the db. The overhead of a JDBC Connection may be significant in these cases.

Question What do you understand by private, protected and public? (Core Java)
Answer These are accessibility modifiers. Private is the most restrictive, while public is the least restrictive. There is no real difference between protected and the default type (also known as package protected) within the context of the same package, however the protected keyword allows visibility to a derived class in a different package.

Question What is Downcasting ? (Core Java)
Answer Downcasting is the casting from a general to a more specific type, i.e. casting down the hierarchy

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Question Can a method be overloaded based on different return type but same argument type ? (Core Java)
Answer No, because the methods can be called without using their return type in which case there is ambiquity for the compiler

Question What happens to a static var that is defined within a method of a class ? (Core Java)
Answer Can't do it. You'll get a compilation error

Question How many static init can you have ? (Core Java)
Answer As many as you want, but the static initializers and class variable initializers are executed in textual order and may not refer to class variables declared in the class whose declarations appear textually after the use, even though these class variables are in scope.

Question What is the difference amongst JVM Spec, JVM Implementation, JVM Runtime ? (Core Java)
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

Question Describe what happens when an object is created in Java? (Core Java)
Answer Several things happen in a particular order to ensure the object is constructed properly:
1. Memory is allocated from heap to hold all instance variables and implementation-specific data of the object and its superclasses.

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Implemenation-specific data includes pointers to class and method data.
2. The instance variables of the objects are initialized to their default values.
3. The constructor for the most derived class is invoked. The first thing a constructor does is call the consctructor for its superclasses. This process continues until the constrcutor for java.lang.Object is called, as java.lang.Object is the base class for all objects in java.
4. Before the body of the constructor is executed, all instance variable initializers and initialization blocks are executed. Then the body of the constructor is executed. Thus, the constructor for the base class completes first and constructor for the most derived class completes last.

Question What does the "final" keyword mean in front of a variable? A method? A class? (Core Java)
Answer FINAL for a variable : value is constant
FINAL for a method : cannot be overridden
FINAL for a class : cannot be derived
Question What is the difference between instanceof and isInstance? (Core Java)
Answer instanceof is used to check to see if an object can be cast into a specified type without throwing a cast class exception.
isInstance()
Determines if the specified Object is assignment-compatible with the object represented by this Class. This method is the dynamic equivalent of the Java language instanceof operator. The method returns true if the specified Object argument is non-null and can be cast to the reference type represented by this Class object without raising a ClassCastException. It returns false otherwise.

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Question Why does it take so much time to access an Applet having Swing Components the first time? (Swing)
Answer Because behind every swing component are many Java objects and resources. This takes time to create them in memory. JDK 1.3 from Sun has some improvements which may lead to faster execution of Swing applications.

Question How do I include static files within a JSP page? (JSP)
Answer Static resources should always be included using the JSP include directive. This way, the inclusion is performed just once during the translation phase. The following example shows the syntax: Do note that you should always supply a relative URL for the file attribute. Although you can also include static resources using the action, this is not advisable as the inclusion is then performed for each and every request.

Question Why does JComponent have add() and remove() methods but Component does not? (Swing)
Answer because JComponent is a subclass of Container, and can contain other components and jcomponents

Question How would you create a button with rounded edges? (Swing)
Answer There are 2 ways. The first thing is to know that a JButton?s edges are drawn by a Border. so you can override the Button?s paintComponent(Graphics) method and draw a circle or rounded rectangle (whatever), and turn off the border. Or you can create a custom border that draws a circle or rounded rectangle around any component and set the button?s border to it.

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Question How would you detect a keypress in a JComboBox? (Swing)
Answer Add a KeyListener to the JComboBox?s editor component instead of adding a KeyListener to the JComboBox itself

Question Why should the implementation of any Swing callback (like a listener) execute quickly? (Swing)
Answer Because callbacks are invoked by the event dispatch thread which will be blocked processing other events for as long as your method takes to execute.

Question Why would you use SwingUtilities.invokeAndWait or SwingUtilities.invokeLater? (Swing)
Answer I want to update a Swing component but I?m not in a callback. If I want the update to happen immediately (perhaps for a progress bar component) then I?d use invokeAndWait. If I don?t care when the update occurs, I?d use invokeLater.

Question If your UI seems to freeze periodically, what might be a likely reason? (Swing)
Answer A callback implementation like ActionListener.actionPerformed or MouseListener.mouseClicked is taking a long time to execute thereby blocking the event dispatch thread from processing other UI events.

Question Which Swing methods are thread-safe? (Swing)
Answer The only thread-safe methods are repaint(), revalidate(), and invalidate()

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Question Why won?t the JVM terminate when I close all the application windows? (Swing)
Answer The AWT event dispatcher thread is not a daemon thread. You must explicitly call System.exit to terminate the JVM.

Question JFrame is a heavy weight component. Since it extends an awt Frame, is it Thread Safe? (Swing)
Answer JFrame itself is, since it is just a java.awt.Frame in essence, but the root pane/content pane is not, so it effectively follows the same rules for Swing containers and is not considered thread safe.

Question What is the difference between invokeAndWait() and invokeLater()? (Swing)
Answer invokeAndWait() blocks until the Runnable task is complete; it's synchronous.
invokeLater() posts an action event to the event queue and returns immediately; it's asynchronous.

Question Why is not recommended to have instance variables in Interface (Core Java)
Answer By Default, All data members and methods in an Interface are public. Having public variables in a class that will be implementing it will be violation of the Encapsulation principal. I hope that's pretty ok.. If anybody has a better framed **Answer**. U r welcome at reema_gupta@intersolutions.stpn.soft.net

Question What is the diffrence between inner class and nested class? (Core Java)

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Answer When a class is defined within a scope od another class, then it becomes inner class.
If the access modifier of the inner class is static, then it becomes nested class.

Question What is a compilation unit? (Core Java)
Answer A compilation unit is a Java source code file.

Question What restrictions are placed on method overriding? (Core Java)
Answer Overridden methods must have the same name, argument list, and return type.
The overriding method may not limit the access of the method it overrides.
The overriding method may not throw any exceptions that may not be thrown by the overridden method.

Question How can a dead thread be restarted? (Core Java)
Answer A dead thread cannot be restarted.

Question What happens if an exception is not caught? (Core Java)
Answer An uncaught exception results in the uncaughtException() method of the thread's ThreadGroup being invoked, which eventually results in the termination of the program in which it is thrown.

Question Which arithmetic operations can result in the throwing of an ArithmeticException? (Core Java)

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Answer Integer / and % can result in the throwing of an ArithmeticException

Question Can an abstract class be final? (Core Java)
Answer An abstract class may not be declared as final

Question What happens if a try-catch-finally statement does not have a catch clause to handle an exception that is thrown within the body of the try statement? (Core Java)
Answer The exception propagates up to the next higher level try-catch statement (if any) or results in the program's termination

Question What is numeric promotion? (Core Java)
Answer Numeric promotion is the conversion of a smaller numeric type to a larger numeric type, so that integer and floating-point operations may take place. In numerical promotion, byte, char, and short values are converted to int values. The int values are also converted to long values, if necessary. The long and float values are converted to double values, as required

Question What is the difference between a public and a non-public class? (Core Java)
Answer A public class may be accessed outside of its package. A non-public class may not be accessed outside of its package.

Question To what value is a variable of the boolean type automatically initialized? (Core Java)
Answer The default value of the boolean type is false

Question Can try statements be nested? (Core Java)

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Answer Yes

Question What is the difference between the prefix and postfix forms of the ++ operator? (Core Java)
Answer The prefix form performs the increment operation and returns the value of the increment operation. The postfix form returns the current value all of the expression and then performs the increment operation on that value.

Question What is the purpose of a statement block? (Core Java)
Answer A statement block is used to organize a sequence of statements as a single statement group

Question What is a Java package and how is it used? (Core Java)
Answer A Java package is a naming context for classes and interfaces. A package is used to create a separate name space for groups of classes and interfaces. Packages are also used to organize related classes and interfaces into a single API unit and to control accessibility to these classes and interfaces.

Question What modifiers may be used with a top-level class? (Core Java)
Answer A top-level class may be public, abstract, or final.

Question What are the Object and Class classes used for? (Core Java)
Answer The Object class is the highest-level class in the Java class hierarchy. The Class class is used to represent the classes and interfaces that are loaded by a Java program.

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Question How does a try statement determine which catch clause should be used to handle an exception? (Core Java)
Answer When an exception is thrown within the body of a try statement, the catch clauses of the try statement are examined in the order in which they appear. The first catch clause that is capable of handling the exception is executed. The remaining catch clauses are ignored.

Question What are synchronized methods and synchronized statements? (Core Java)
Answer Synchronized methods are methods that are used to control access to an object. A thread only executes a synchronized method after it has acquired the lock for the method's object or class. Synchronized statements are similar to synchronized methods. A synchronized statement can only be executed after a thread has acquired the lock for the object or class referenced in the synchronized statement.

Question What is the difference between an if statement and a switch statement? (Core Java)
Answer The if statement is used to select among two alternatives. It uses a boolean expression to decide which alternative should be executed. The switch statement is used to select among multiple alternatives. It uses an int expression to determine which alternative should be executed.

Question which containers use a border Layout as their default layout? (AWT)

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Answer The window, Frame and Dialog classes use a border layout as their default layout

Question What is the preferred size of a component? (AWT)
Answer The preferred size of a component is the minimum component size that will allow the component to display normally

Question Which containers use a FlowLayout as their default layout? (AWT)
Answer The Panel and Applet classes use the FlowLayout as their default layout

Question What is the immediate superclass of the Applet class? (AWT)
Answer Panel

Question Name three Component subclasses that support painting (AWT)
Answer The Canvas, Frame, Panel, and Applet classes support painting

Question What is the immediate superclass of the Dialog class? (AWT)
Answer Window

Question What is clipping? (AWT)
Answer Clipping is the process of confining paint operations to a limited area or shape

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Question What is the difference between a MenuItem and a CheckboxMenuItem? (AWT)
Answer The CheckboxMenuItem class extends the MenuItem class to support a menu item that may be checked or unchecked

Question What class is the top of the AWT event hierarchy? (AWT)
Answer The java.awt.AWTEvent class is the highest-level class in the AWT event-class hierarchy

Question In which package are most of the AWT events that support the event-delegation model defined? (AWT)
Answer Most of the AWT-related events of the event-delegation model are defined in the java.awt.event package. The AWTEvent class is defined in the java.awt package.

Question Which class is the immediate superclass of the MenuComponent class (AWT)
Answer Object

Question Which containers may have a MenuBar? (AWT)
Answer Frame

Question What is the relationship between the Canvas class and the Graphics class? (AWT)
Answer A Canvas object provides access to a Graphics object via its paint() method.

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Question How are the elements of a BorderLayout organized? (AWT)
Answer The elements of a BorderLayout are organized at the borders (North, South, East, and West) and the center of a container.

Question What is the difference between a Window and a Frame? (AWT)
Answer The Frame class extends Window to define a main application window that can have a menu bar.

Question What is the difference between the Font and FontMetrics classes? (AWT)
Answer The FontMetrics class is used to define implementation-specific properties, such as ascent and descent, of a Font object.

Question How are the elements of a CardLayout organized? (AWT)
Answer The elements of a CardLayout are stacked, one on top of the other, like a deck of cards.

Question What is the relationship between clipping and repainting? (AWT)
Answer When a window is repainted by the AWT painting thread, it sets the clipping regions to the area of the window that requires repainting.

Question What is the relationship between an event-listener interface and an event-adapter class? (AWT)
Answer An event-listener interface defines the methods that must be implemented by an event handler for a particular kind of

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event. An event adapter provides a default implementation of an event-listener interface.

Question How can a GUI component handle its own events? (AWT)
Answer A component can handle its own events by implementing the required event-listener interface and adding itself as its own event listener.

Question How are the elements of a GridBagLayout organized? (AWT)
Answer The elements of a GridBagLayout are organized according to a grid. However, the elements are of different sizes and may occupy more than one row or column of the grid. In addition, the rows and columns may have different sizes.

Question What advantage do Java's layout managers provide over traditional windowing systems? (AWT)
Answer Java uses layout managers to lay out components in a consistent manner across all windowing platforms. Since Java's layout managers aren't tied to absolute sizing and positioning, they are able to accommodate platform-specific differences among windowing systems.

Question What is the difference between the paint() and repaint() methods? (AWT)
Answer The paint() method supports painting via a Graphics object. The repaint() method is used to cause paint() to be invoked by the AWT painting thread.

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Question How can the Checkbox class be used to create a radio button? (AWT)
Answer By associating Checkbox objects with a CheckboxGroup

Question What is the difference between a Choice and a List? (AWT)
Answer A Choice is displayed in a compact form that requires you to pull it down to see the list of available choices. Only one item may be selected from a Choice. A List may be displayed in such a way that several List items are visible. A List supports the selection of one or more List items.

Question What interface is extended by AWT event listeners? (AWT)
Answer All AWT event listeners extend the java.util.EventListener interface.

Question What is a layout manager? (AWT)
Answer A layout manager is an object that is used to organize components in a container

Question Which Component subclass is used for drawing and painting? (AWT)
Answer Canvas

Question What are the problems faced by Java programmers who dont use layout managers? (AWT)
Answer Without layout managers, Java programmers are faced with determining how their GUI will be displayed across multiple

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windowing systems and finding a common sizing and positioning that will work within the constraints imposed by each windowing system

Question What is the difference between a Scrollbar and a ScrollPane? (Swing)
Answer A Scrollbar is a Component, but not a Container. A ScrollPane is a Container. A ScrollPane handles its own events and performs its own scrolling

Question What is the Collections API? (Java util)
Answer The Collections API is a set of classes and interfaces that support operations on collections of objects

Question What is the List interface? (Java util)
Answer The List interface provides support for ordered collections of objects.

Question What is the Vector class? (Java util)
Answer The Vector class provides the capability to implement a growable array of objects

Question What is an Iterator interface? (Java util)
Answer The Iterator interface is used to step through the elements of a Collection

Question Which java.util classes and interfaces support event handling? (Java util)
Answer The EventObject class and the EventListener interface support event processing

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Question What is the GregorianCalendar class? (Java util)
Answer The GregorianCalendar provides support for traditional Western calendars

Question What is the Locale class? (Java util)
Answer The Locale class is used to tailor program output to the conventions of a particular geographic, political, or cultural region

Question What is the SimpleTimeZone class? (Java util)
Answer The SimpleTimeZone class provides support for a Gregorian calendar

Question What is the Map interface? (Java util)
Answer The Map interface replaces the JDK 1.1 Dictionary class and is used associate keys with values

Question What is the highest-level event class of the event-delegation model? (Java util)
Answer The java.util.EventObject class is the highest-level class in the event-delegation class hierarchy

Question What is the Collection interface? (Java util)
Answer The Collection interface provides support for the implementation of a mathematical bag - an unordered collection of objects that may contain duplicates

Question What is the Set interface? (Java util)
Answer The Set interface provides methods for accessing the elements of a finite mathematical set. Sets do not allow duplicate elements

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Question What is the purpose of the enableEvents() method? (Java util)
Answer The enableEvents() method is used to enable an event for a particular object. Normally, an event is enabled when a listener is added to an object for a particular event. The enableEvents() method is used by objects that handle events by overriding their event-dispatch methods.
Question What is the ResourceBundle class? (Java util)
Answer The ResourceBundle class is used to store locale-specific resources that can be loaded by a program to tailor the program's appearance to the particular locale in which it is being run.

Question What is the difference between yielding and sleeping? (Threads)
Answer When a task invokes its yield() method, it returns to the ready state. When a task invokes its sleep() method, it returns to the waiting state.

Question When a thread blocks on I/O, what state does it enter? (Threads)
Answer A thread enters the waiting state when it blocks on I/O.

Question When a thread is created and started, what is its initial state? (Threads)
Answer A thread is in the ready state after it has been created and started.

Question What invokes a thread's run() method? (Threads)

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Answer After a thread is started, via its start() method or that of the Thread class, the JVM invokes the thread's run() method when the thread is initially executed.

Question What method is invoked to cause an object to begin executing as a separate thread? (Threads)
Answer The start() method of the Thread class is invoked to cause an object to begin executing as a separate thread.

Question What is the purpose of the wait(), notify(), and notifyAll() methods? (Threads)
Answer The wait(),notify(), and notifyAll() methods are used to provide an efficient way for threads to wait for a shared resource. When a thread executes an object's wait() method, it enters the waiting state. It only enters the ready state after another thread invokes the object's notify() or notifyAll() methods.

Question What are the high-level thread states? (Threads)
Answer The high-level thread states are ready, running, waiting, and dead

Question What happens when a thread cannot acquire a lock on an object? (Threads)
Answer If a thread attempts to execute a synchronized method or synchronized statement and is unable to acquire an object's lock, it enters the waiting state until the lock becomes available.

Question How does multithreading take place on a computer with a single CPU? (Threads)

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Answer The operating system's task scheduler allocates execution time to multiple tasks. By quickly switching between executing tasks, it creates the impression that tasks execute sequentially.

Question What happens when you invoke a thread's interrupt method while it is sleeping or waiting? (Threads)
Answer When a task's interrupt() method is executed, the task enters the ready state. The next time the task enters the running state, an InterruptedException is thrown.

Question What state is a thread in when it is executing? (Threads)
Answer An executing thread is in the running state

Question What are three ways in which a thread can enter the waiting state? (Threads)
Answer A thread can enter the 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. It can also enter the waiting state by invoking its (deprecated) suspend() method.

Question What method must be implemented by all threads? (Threads)
Answer All tasks must implement the run() method, whether they are a subclass of Thread or implement the Runnable interface.

Question What are the two basic ways in which classes that can be run as threads may be defined? (Threads)

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Answer A thread class may be declared as a subclass of Thread, or it may implement the Runnable interface.

Question How can you store international / Unicode characters into a cookie? (JSP)
Answer One way is, before storing the cookie URLEncode it.
URLEnocder.encoder(str);
And use URLDecoder.decode(str) when you get the stored cookie.

Question What is the difference between URL instance and URLConnection instance? (Networking)
Answer A URL instance represents the location of a resource, and a URLConnection instance represents a link for accessing or communicating with the resource at the location.

Question What are the two important TCP Socket classes? (Networking)
Answer Socket and ServerSocket. ServerSocket is used for normal two-way socket communication. Socket class allows us to read and write through the sockets. getInputStream() and getOutputStream() are the two methods available in Socket class.

Question How to call a Stored Procedure from JDBC? (JDBC)
Answer The first step is to create a CallableStatement object. As with Statement an and PreparedStatement objects, this is done with an open Connection object. A CallableStatement object contains a call to a stored procedure.
E.g.
CallableStatement cs = con.prepareCall("{call SHOW_SUPPLIERS}");

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```
ResultSet rs = cs.executeQuery();
```

Question What are the implicit objects? (JSP)
Answer Implicit objects are objects that are created by the web container and contain information related to a particular request, page, or application. They are:
request
response
pageContext
session
application
out
config
page
exception

Question Is JSP technology extensible? (JSP)
Answer YES. JSP technology is extensible through the development of custom actions, or tags, which are encapsulated in tag libraries

Question What gives java it's "write once and run anywhere" nature? (Core Java)
Answer Java is compiled to be a byte code which is the intermediate language between source code and machine code. This byte code is not platorm specific and hence can be fed to any platform. After being fed to the JVM, which is specific to a particular operating system, the code platform specific machine code is generated thus making java platform independent.

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Question What are the four corner stones of OOP ? (Core Java)
Answer Abstraction, Encapsulation, Polymorphism and Inheritance

Question Difference between a Class and an Object ? (Core Java)
Answer A class is a definition or prototype whereas an object is an instance or living representation of the prototype

Question What is the difference between method overriding and overloading? (Core Java)
Answer Overriding is a method with the same name and arguments as in a parent, whereas overloading is the same method name but different arguments

Question What is a "stateless" protocol ? (Core Java)
Answer Without getting into lengthy debates, it is generally accepted that protocols like HTTP are stateless i.e. there is no retention of state between a transaction which is a single request response combination

Question What is constructor chaining and how is it achieved in Java ? (Core Java)
Answer A child object constructor always first needs to construct its parent (which in turn calls its parent constructor.). In Java it is done via an implicit call to the no-args constructor as the first statement.

Question What is passed by ref and what by value ? (Core Java)

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Answer All Java method arguments are passed by value. However, Java does manipulate objects by reference, and all object variables themselves are references

Question Can RMI and Corba based applications interact ? (RMI)
Answer Yes they can. RMI is available with IIOP as the transport protocol instead of JRMP.

Question You can create a String object as String str = "abc"; Why cant a button object be created as Button bt = "abc";? Explain (Core Java)
Answer The main reason you cannot create a button by Button bt1= "abc"; is because "abc" is a literal string (something slightly different than a String object, by-the-way) and bt1 is a Button object. The only object in Java that can be assigned a literal String is java.lang.String. Important to note that you are NOT calling a java.lang.String constuctor when you type String s = "abc";

Question What does the "abstract" keyword mean in front of a method? A class? (Core Java)
Answer Abstract keyword declares either a method or a class. If a method has a abstract keyword in front of it,it is called abstract method.Abstract method hs no body.It has only arguments and return type.Abstract methods act as placeholder methods that are implemented in the subclasses.
Abstract classes can't be instantiated.If a class is declared as abstract,no objects of that class can be created.If a class contains any abstract method it must be declared as abstract

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Question How many methods do u implement if implement the Serializable Interface? (Core Java)

Answer The Serializable interface is just a "marker" interface, with no methods of its own to implement. Other 'marker' interfaces are
java.rmi.Remote
java.util.EventListener

Question What are the practical benefits, if any, of importing a specific class rather than an entire package (e.g. import java.net.* versus import java.net.Socket)? (Core Java)

Answer It makes no difference in the generated class files since only the classes that are actually used are referenced by the generated class file. There is another practical benefit to importing single classes, and this arises when two (or more) packages have classes with the same name. Take java.util.Timer and javax.swing.Timer, for example. If I import java.util.* and javax.swing.* and then try to use "Timer", I get an error while compiling (the class name is ambiguous between both packages). Let's say what you really wanted was the javax.swing.Timer class, and the only classes you plan on using in java.util are Collection and HashMap. In this case, some people will prefer to import java.util.Collection and import java.util.HashMap instead of importing java.util.*. This will now allow them to use Timer, Collection, HashMap, and other javax.swing classes without using fully qualified class names in.

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Question What is the difference between logical data independence and physical data independence? (Core Java)
Answer Logical Data Independence - meaning immunity of external schemas to changeds in conceptual schema. Physical Data Independence - meaning immunity of conceptual schema to changes in the internal schema.

Question What is user defined exception? (Core Java)
Answer Apart from the exceptions already defined in Java package libraries, user can define his own exception classes by extending Exception class.

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