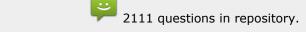


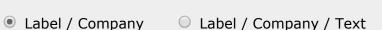


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Very Very frequently asked. Among the first few questions in almost all interviews. Among Top 5 frequently asked questions. Frequently asked in Indian service companies (HCL,TCS,Infosys etc, Based on multiple feedback)







Ans. "equals" is the method of object class which is supposed to be overridden to check object equality, whereas "==" operator evaluate to see if the object handlers on the left and right are pointing to the same object in memory.

x.equals(y) means the references x and y are holding objects that are equal. x==y means that the references x and y have same object.

Sample code:

```
String x = new String("str");
String y = new String("str");

System.out.println(x == y); // prints false
System.out.println(x.equals(y)); // prints true

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```

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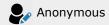
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Advanced level question. Frequently asked in High end product companies. Frequently asked in Cognizant (Based on 2 feedbacks)



Core Java



Ans. 1. String Pool - When a string is created and if it exists in the pool, the reference of the existing string will be returned instead of creating a new object. If string is not immutable, changing the string with one reference will lead to the wrong value for the other references.

Example -

String str1 = "String1"; String str2 = "String1"; // It doesn't create a new String and rather reuses the string literal from pool

// Now both str1 and str2 pointing to same string object in pool, changing str1 will change it for str2 too

- 2. To Cache its Hashcode If string is not immutable, One can change its hashcode and hence it's not fit to be cached.
- 3. Security String is widely used as parameter for many java classes, e.g. network connection, opening files, etc. Making it mutable might possess threats due to interception by the other code segment.



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Try 4 Question(s) Test

Very frequently asked in different variations. Frequently asked in Deloitte (2 feedback) , HCL Tech (3 feedback) and Coginizant (CTS)

Q3. Explain the scenerios to choose between String, StringBuilder and Core Java StringBuffer?





or

What is the difference between String, StringBuilder and StringBuffer?

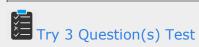
Ans. If the Object value will not change, use String Class because a String object is immutable.

If the Object value can change and will only be modified from a single thread, use StringBuilder because StringBuilder is unsynchronized(means faster).

If the Object value may change, and can be modified by multiple threads, use a StringBuffer because StringBuffer is thread safe(synchronized).

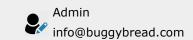
- ⟨→ Sample Code for StringBuffer
- Help us improve. Please let us know the company, where you were asked this question:





Frequently asked to fresh graduates and less experienced developers. Among the first few questions in many interviews.





Ans. Composition - has-a relationship between classes. Inheritance - is-a relationship between classes.

Composition - Composing object holds a reference to composing classes and hence relationship is loosely bound. Inheritance - Derived object carries the base class definition in itself and hence its tightly bound.

Composition - Used in Dependency Injection Inheritance - Used in Runtime Polymorphism

Composition - Single class objects can be composed within multiple classes.

Inheritance - Single class can only inherit 1 Class.

Composition - Its the relationship between objects. Inheritance - Its the relationship between classes.

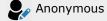
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Q5. Which are the different segments of memory ?

Core Java

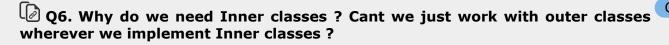


- Ans. 1. Stack Segment Contains primitives, Class / Interface names and references.
- 2. Heap Segment Contains all created objects in runtime, objects only plus their object attributes (instance variables), Static variables are also stored in heap.
- 3. Code Segment The segment where the actual compiled Java bytecodes resides when loaded

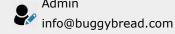








ore Java



Ans. Yes, we can substitute outer classes wherever we need to have inner classes but Inner classes have advantage in certain cases and hence preferred -

Ease - Why to implement a class outside if its objects are only intended to be part of an outer object. Its easy to define the class within another class if the use is only local.

Protection - Making a call an outer exposes a threat of it being used by any of the class. Why should it be made an outer class if its object should only occur as part of other objects.

For example - You may like to have an class address whose object should have a reference to city and by design thats the only use

of city you have in your application. Making Address and City as outer class exposes City to any of the Class. Making it an inner class of Address will make sure that its accessed using object of Address.

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Like Correct / Improve java inner classes classes objects technical lead intermediate



Core Java



Try 1 Question(s) Test

Frequently asked in Infosys and HCL Technologies (Based on 2 feedback)



Ans. Using new operator - new xyzClass()

Using factory methods - xyzFactory.getInstance()

Using newInstance() method - (Class.forName(xyzClass))emp.newInstance()

By cloning an already available object - (xyzClass)obj1.clone()

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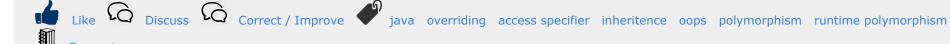


Ans. 1. Overriding method can not be more restrictive than the overridden method.

reason: in case of polymorphism, at object creation jvm look for actual runtime object. jvm does not look for reference type and while calling methods it look for overridden method.

If by means subclass were allowed to change the access modifier on the overriding method, then suddenly at runtime when the JVM invokes the true objects version of the method rather than the reference types version then it will be problematic

- 2. In case of subclass and superclass define in different package, we can override only those method which have public or protected access.
- 3. We can not override any private method because private methods can not be inherited and if method can not be inherited then method can not be overridden.
- Help us improve. Please let us know the company, where you were asked this question :







Q9. What are different ways to create String Object? Explain.





Ans.

```
String str = new String("abc");
String str1 = "abc";
```

When we create a String using double quotes, JVM looks in the String pool to find if any other String is stored with same value. If found, it just returns the reference to that String object else it creates a new String object with given value and stores it in the String pool.

When we use new operator, JVM creates the String object but dont store it into the String Pool. We can use intern() method to store the String object into String pool or return the reference if there is already a String with equal value present in the pool.

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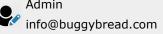
Check everything that is Best in Java

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Q10. What do you mean by "Java is a statically typed language"?





Ans. It means that the type of variables are checked at compile time in Java. The main advantage here is that all kinds of checking can be done by the compiler and hence will reduce bugs.

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Q11. What is the difference between declaration, instantiation and initialization?

Core Java

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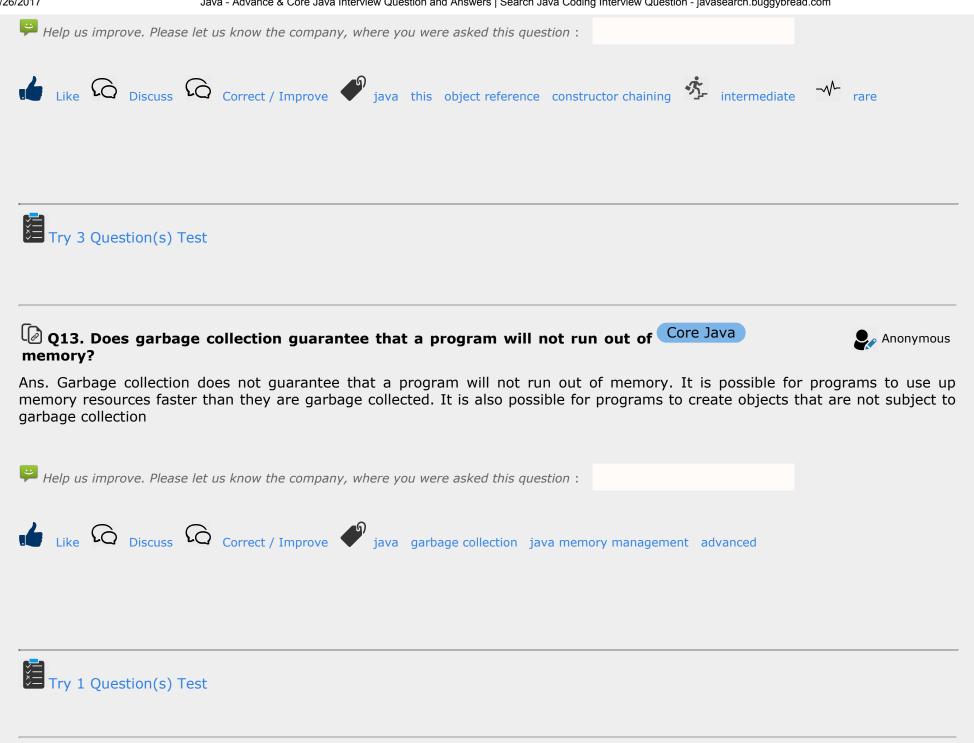
Ans. Declaration is intimation to the compiler about the nature of Data a reference is going to hold.

For example - List myList;

Instantiation is reservation of memory.

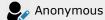
For example myList = new ArrayList(); Initialization or construction is setting the default values for member elements. For example myList = new ArrayList(mySet); ** Example 2nd is both for instantiation as well as initialization. The only difference is that 2nd will initialized the member elements to their default values whereas 3rd will initialized it with the elements from set. Help us improve. Please let us know the company, where you were asked this question : Like Discuss Correct / Improve declaration instantiation initialization construction basic frequent Core Java Q12. What are the common uses of "this" keyword in java? Anonymous Ans. "this" keyword is a reference to the current object and can be used for following -1. Passing itself to another method. 2. Referring to the instance variable when local variable has the same name.

3. Calling another constructor in constructor chaining.



Q14. What are the benefits of JSON over XML?

Json



Ans. Lighter and faster than XML as on-the-wire data format

Object Representation - Information is presented in object notations and hence better understandable.

Easy to parse and conversion to objects for information consumption.

Support multiple data types - JSON supports string, number, array, boolean whereas XML data are all string.

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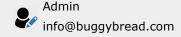


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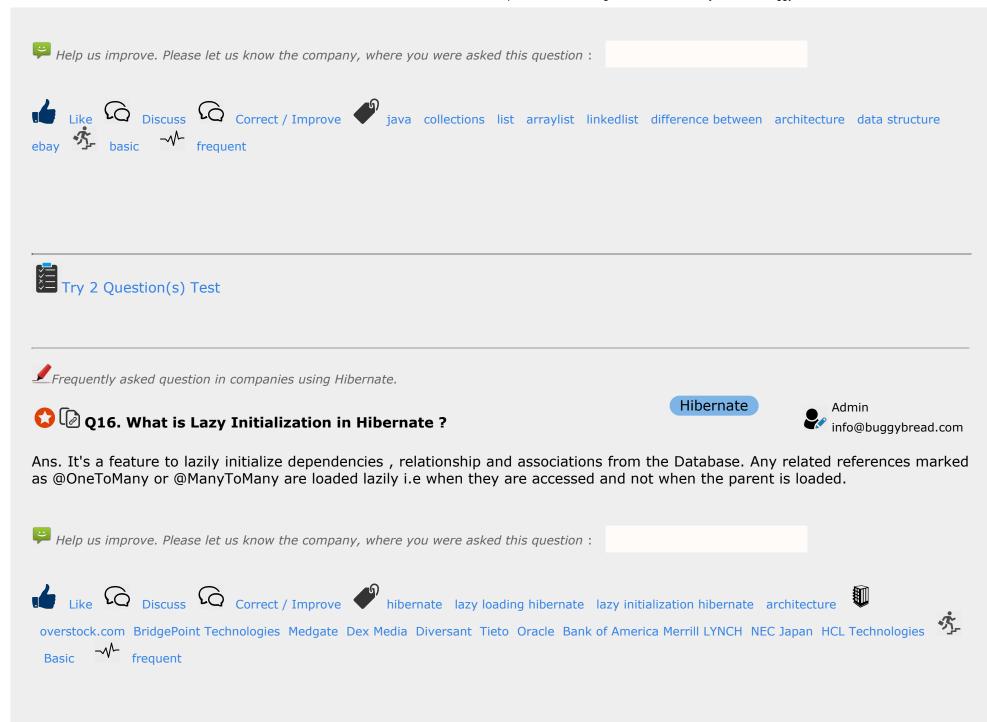
Q15. If you are given a choice to use either ArrayList and LinkedList, Which one would you use and Why?





Ans. ArrayList are implemented in memory as arrays and hence allows fast retrieval through indices but are costly if new elements are to be inserted in between other elements. LinkedList allows for constant-time insertions or removals using iterators, but only sequential access of elements

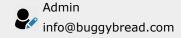
- 1. Retrieval If Elements are to be retrieved sequentially only, Linked List is preferred.
- 2. Insertion If new Elements are to be inserted in between other elements, Array List is preferred.
- 3. Search Binary Search and other optimized way of searching is not possible on Linked List.
- 4. Sorting Initial sorting could be pain but lateral addition of elements in a sorted list is good with linked list.
- 5. Adding Elements If sufficiently large elements needs to be added very frequently ,Linked List is preferable as elements don't need consecutive memory location.







Core Java



Ans. Its an anonymous method without any declaration.

Lambda Expression are useful to write shorthand Code and hence saves the effort of writing lengthy Code.

It promotes Developer productivity, Better Readable and Reliable code.

⟨→ Sample Code for lambda

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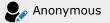
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Try 1 Question(s) Test

Q18. Which of the following combination of keywords is illegal in Java?

Core Java



- a. static and transient
- b. transient and final
- c. static and synchronized
- d. abstract and final

Ans. abstract and final

















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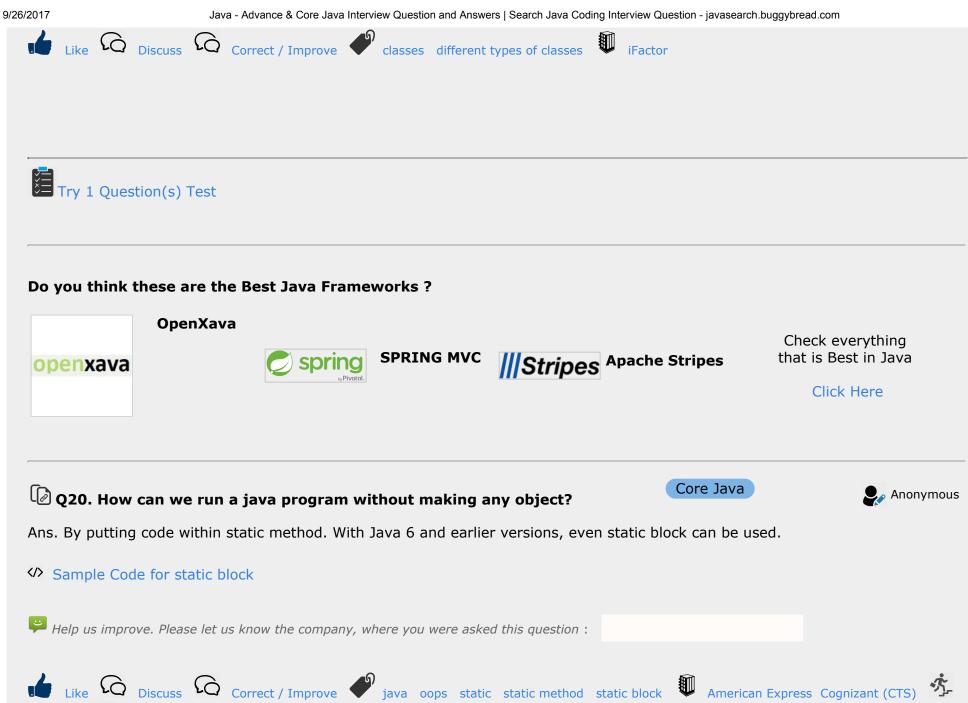
Core Java



Q19. What are different types of classes?

Ans. There are different verticals in which Java Classes can be classified.

- 1. Access Public , Private , default or Protected.
- 2. Packaging System, library or User Defined
- 3. Structure Outer or Inner
- 4. Object Derivation Abstract Class or Concrete Class.
- 5. Object Creation Normal, Singleton, Doubleton, Immutable or Enum.
- 6. Functionality String, Util, Stream etc.
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Very frequently asked to Fresh graduates.



Q21. What is the difference between Encapsulation and Abstraction?





- Ans. 1. Abstraction solves the problem at design level while encapsulation solves the problem at implementation level
- 2. Abstraction is used for hiding the unwanted data and giving relevant data. while Encapsulation means hiding the code and data into a single unit to protect the data from outside world.
- 3. Abstraction lets you focus on what the object does instead of how it does it while Encapsulation means hiding the internal details or mechanics of how an object does something.
- 4. For example: Outer Look of a Television, like it has a display screen and channel buttons to change channel it explains Abstraction but Inner Implementation detail of a Television how CRT and Display Screen are connect with each other using different circuits, it explains Encapsulation.
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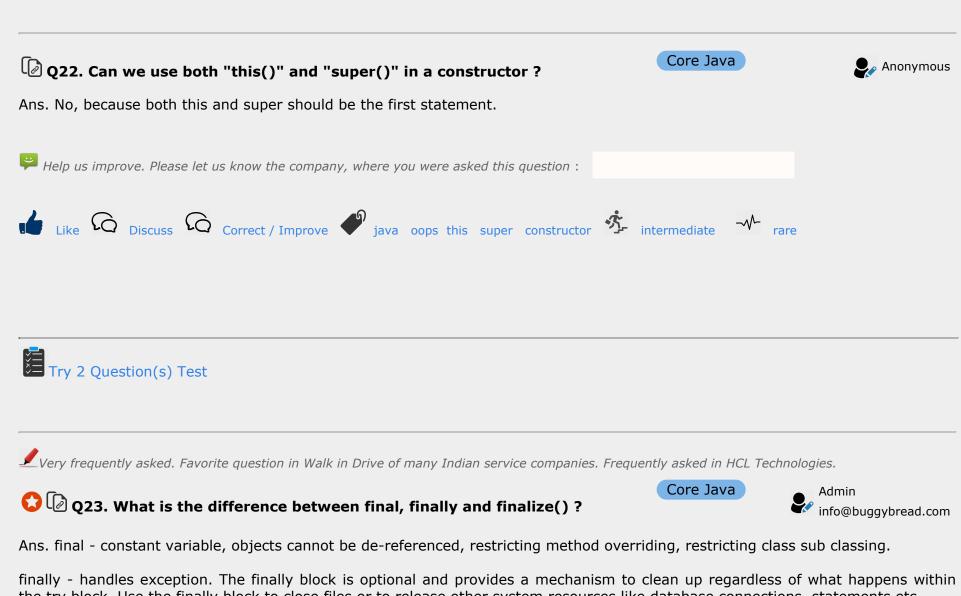


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the try block. Use the finally block to close files or to release other system resources like database connections, statements etc.

finalize() - method helps in garbage collection. A method that is invoked before an object is discarded by the garbage collector, allowing it to clean up its state.

⟨→ Sample Code for final

- ⟨→ Sample Code for finalize
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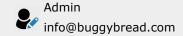




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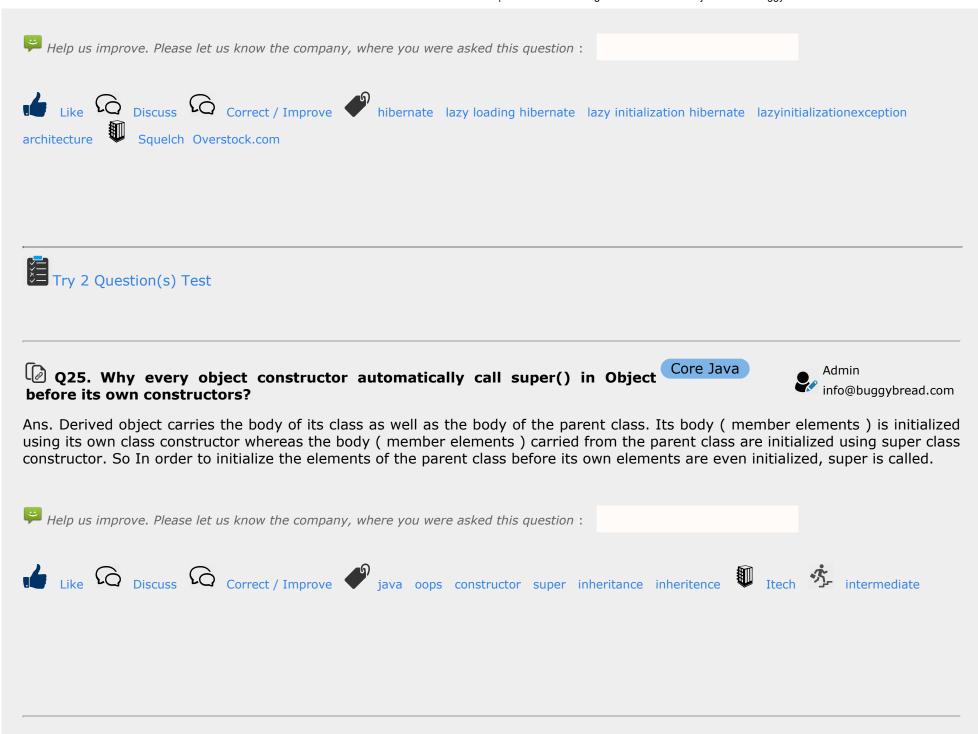


Hibernate



Ans. 1. Set lazy=false in the hibernate config file.

- 2. Set @Basic(fetch=FetchType.EAGER) at the mapping.
- 3. Make sure that we are accessing the dependent objects before closing the session.
- 4. Force initialization using Hibernate.initialize
- 5. Using Fetch Join in HQL.



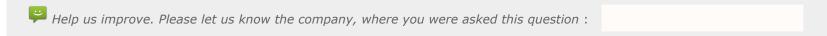
Q26. Describe what happens when an object is created in Java?





Ans. 1. Memory is allocated from heap to hold all instance variables and implementation-specific data of the object and its superclasses. 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 constructor for its superclasses. This process continues until the constructor 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.

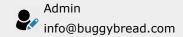






Q27. Explain Flow of Spring MVC?

Spring



Ans. The DispatcherServlet configured in web.xml file receives the request.

The DispatcherServlet finds the appropriate Controller with the help of HandlerMapping and then invokes associated Controller.

Then the Controller executes the logic business logic and then returns ModeAndView object to the DispatcherServlet.

The DispatcherServlet determines the view from the ModelAndView object.

Then the DispatcherServlet passes the model object to the View.

The View is rendered and the Dispatcher Servlet sends the output to the Servlet container.

Finally Servlet Container sends the result back to the user.



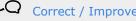












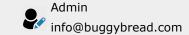


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Java EE

Q28. What is session tracking and how do you track a user session in servlets?



Ans. Session tracking is a mechanism that servlets use to maintain state about a series requests from the same user across some period of time. The methods used for session tracking are:

User Authentication - occurs when a web server restricts access to some of its resources to only those clients that log in using a recognized username and password

Hidden form fields - fields are added to an HTML form that are not displayed in the client's browser. When the form containing the fields is submitted, the fields are sent back to the server

URL rewriting - every URL that the user clicks on is dynamically modified or rewritten to include extra information. The extra information can be in the form of extra path information, added parameters or some custom, server-specific URL change.

Cookies - a bit of information that is sent by a web server to a browser and which can later be read back from that browser.

HttpSession- places a limit on the number of sessions that can exist in memory.

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Advanced level question frequently asked in US based companies. Recently asked in EMC and Intuit.





Solution

Ans. Simplest implementation we can have is a List wherein we can place ordered words and hence can perform Binary Search.

Other implementation with better search performance is to use HashMap with key as first character of the word and value as a LinkedList.

Further level up, we can have linked Hashmaps like,

```
hashmap {
a ( key ) -> hashmap (key-aa , value (hashmap(key-aaa,value)
b ( key ) -> hashmap (key-ba , value (hashmap(key-baa,value)

z( key ) -> hashmap (key-za , value (hashmap(key-zaa,value)
}
```

upto n levels (where n is the average size of the word in dictionary.

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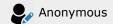
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Very frequently asked. Favorite question in Walk in Drive of many Indian service companies.



Q30. Difference between TreeMap and HashMap?





Ans. They are different the way their elements are stored in memory. TreeMap stores the Keys in order whereas HashMap stores the key value pairs randomly.

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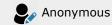
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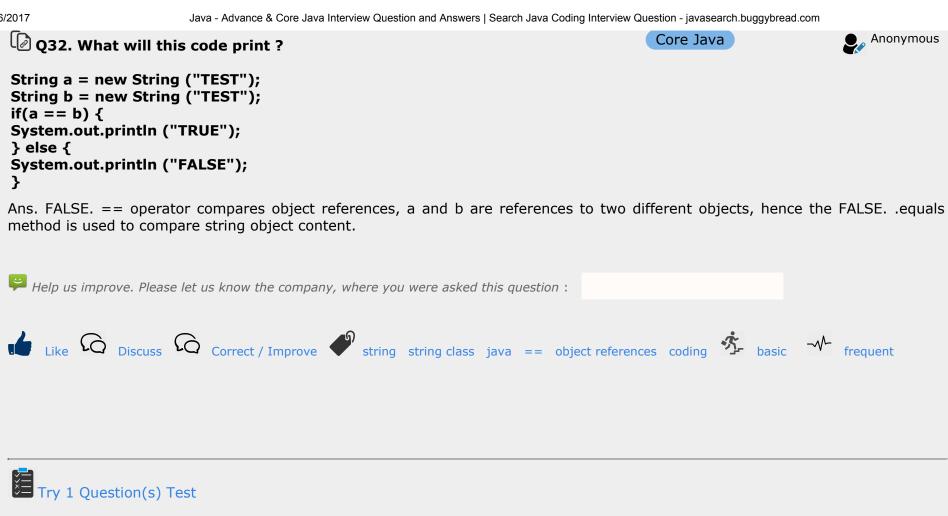


Ans. Hashtable is synchronized whereas HashMap is not. HashMap allows null values whereas Hashtable doesnt allow null values.

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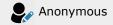


Advanced level question usually asked in High end product companies. Have been asked in Google and Amazon (Based on 1 Feedback)



Q33. Describe, in general, how java's garbage collector works?





Ans. The Java runtime environment deletes objects when it determines that they are no longer being used. This process is known as garbage collection. The Java runtime environment supports a garbage collector that periodically frees the memory used by objects that are no longer needed. The Java garbage collector is a mark-sweep garbage collector that scans Java dynamic memory areas for objects, marking those that are referenced. After all possible paths to objects are investigated, those objects that are not marked (i.e. are not referenced) are known to be garbage and are collected.



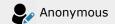












Ans. clone() - Creates and returns a copy of this object.

equals() - Indicates whether some other object is "equal to" this one.

finalize() - Called by the garbage collector on an object when garbage collection determines that there are no more references to the object.

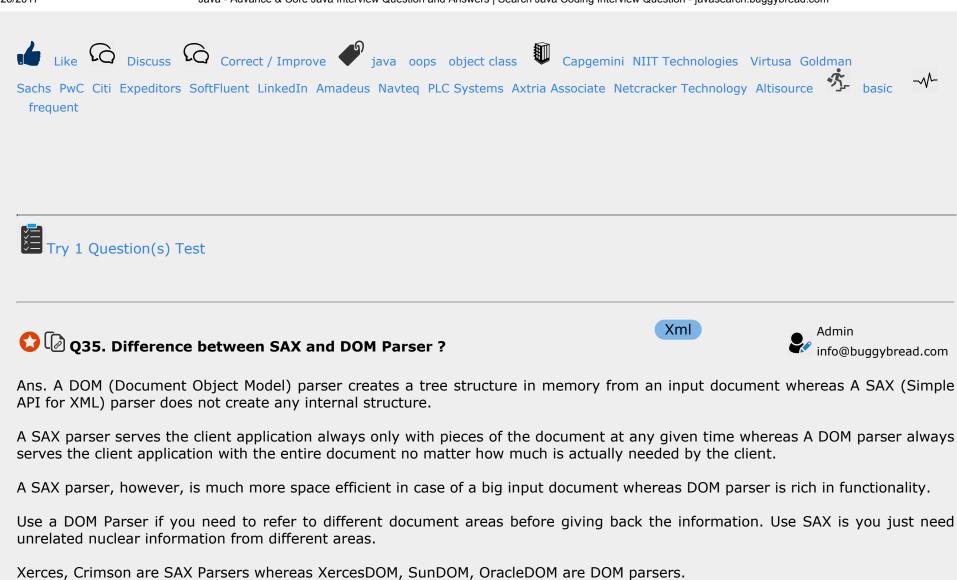
getClass() - Returns the runtime class of an object.

hashCode() - Returns a hash code value for the object.

toString() - Returns a string representation of the object.

notify(), notifyAll(), and wait() - Play a part in synchronizing the activities of independently running threads in a program.

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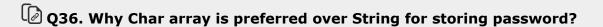
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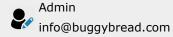




Try 1 Question(s) Test







Ans. String is immutable in java and stored in String pool. Once it's created it stays in the pool until unless garbage collected, so even though we are done with password it's available in memory for longer duration and there is no way to avoid it. It's a security risk because anyone having access to memory dump can find the password as clear text.

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Frequently asked to experienced developers. Recently asked in many US interviews.

Q37. What is database deadlock? How can we avoid them?



info@buggybread.com

Ans. When multiple external resources are trying to access the DB locks and runs into cyclic wait, it may makes the DB

unresponsive.

Deadlock can be avoided using variety of measures, Few listed below -

Can make a queue wherein we can verify and order the request to DB.

Less use of cursors as they lock the tables for long time.

Keeping the transaction smaller.











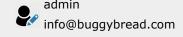


Very frequently asked. Favorite question in Walk in Drive of many Indian service companies.



Q38. What is the difference between ArrayList and LinkedList?



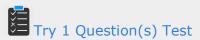


Ans. Underlying data structure for ArrayList is Array whereas LinkedList is the linked list and hence have following differences -

- 1. ArrayList needs continuous memory locations and hence need to be moved to a bigger space if new elements are to be added to a filled array which is not required for LinkedList.
- 2. Removal and Insertion at specific place in ArrayList requires moving all elements and hence leads to O(n) insertions and removal whereas its constant O(1) for LinkedList.
- 3. Random access using index in ArrayList is faster than LinkedList which requires traversing the complete list through references.

- 4. Though Linear Search takes Similar Time for both, Binary Search using LinkedList requires creating new Model called Binary Search Tree which is slower but offers constant time insertion and deletion.
- 5. For a set of integers you want to sort using quicksort, it's probably faster to use an array; for a set of large structures you want to sort using selection sort, a linked list will be faster.
- ⟨→ Sample Code for ArrayList
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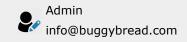
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Ans. Final variable means a variable that has been declared final and hence cannot be de referenced after initialization. Effective final means a variable that has not been declared final but haven't been reassigned the value after initialization.

First is the regulation that restricts the reassignment and will raise a compilation error if we try to do so. Second is the outcome without the restriction.

Effective Final is the eventual treatment of the variable that is required for many features. For eq - Java 8 requires that local variables referenced from a lambda expression must be final or effectively final. It means all local referenced from lambda expressions must be such that their value shouldn't be changed after initialization whether declared final or not.













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Frequently asked to fresh graduates and less experienced.



Q40. Why do we write public static void main? Can we use some other Core Java





syntax too for main?

info@buggybread.com

Ans.

1. public is the access modifier that makes the method accessible from anywhere, static is the keyword that makes it accessible even without creating any object and using class name only, void means it doesn't return anything, String args[] is the array of argument that this method receives.

2. If I use Main, it will compile correctly as Java will treat it as just another method but it wont be the method "main" which Java looks for when it looks to execute the class and hence will throw

Error: Main method not found in class, please define the main method as: public static void main(String[] args)

3. Main is not a keyword but a special string that Java looks for while initiating the main thread.

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Q41. What are the advantages and disadvantages of static variables and static methods?

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Ans. Advantages

Can do meta object operations (like validating something before creating objects, keep count of number of objects)

Can do operations which have nothing to do with objects but still you want them to be tied to Class.

Disadvantages

Commonly used to static variables sometime leads to problems due to access by different objects.

Are not tied to objects so doesn't reflect pure Object Oriented approach.

Needs to be synchronized so as to avoid update conflicts by mutiple objects and threads.

Some limitation in testing as not all frameworks have facility to mock them. Powermock has but Mockito doesnt

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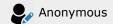






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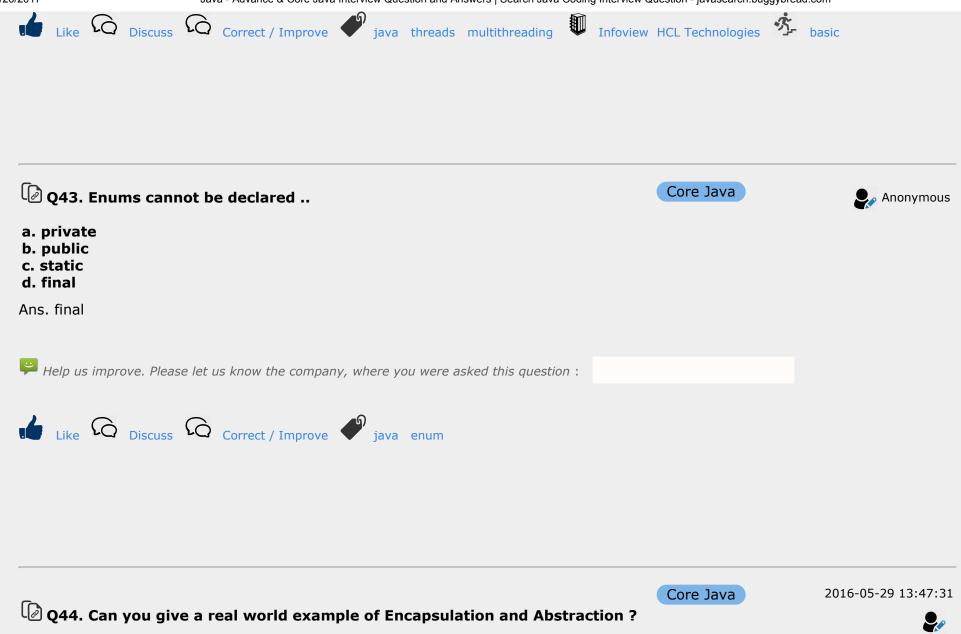
Q42. Which keyword is used to provide explicit access of a code block to Core Java single thread?



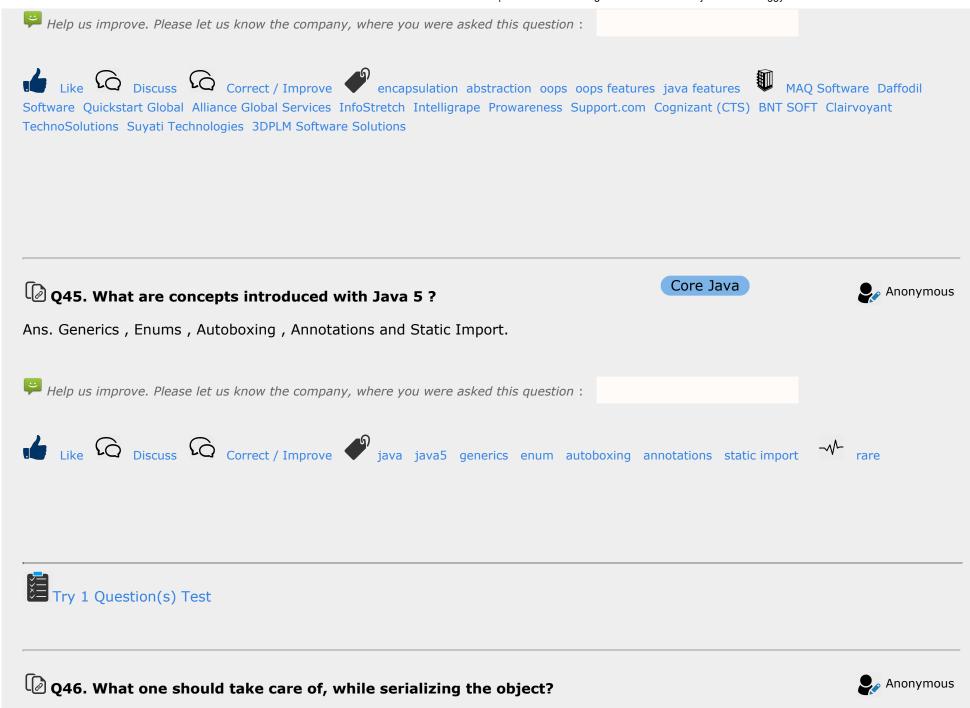
- a. Transient
- b. Final
- c. Explicit
- d. Synchronized

Ans. Synchronized

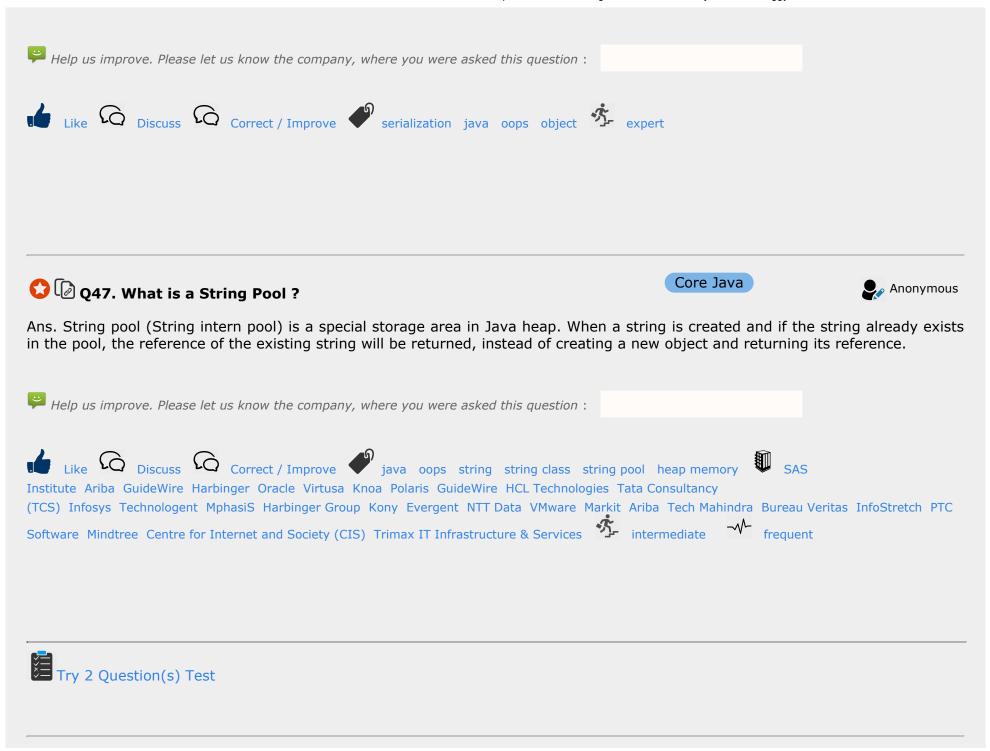
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Ans. Car Engine is an example of encapsulation and abstraction. You ignite the car using an interface called starter and least bothered about how the tire actually moves (This is abstraction). The engine encapsulates the complete process to itself only and doesn't allow you to start the other components like the radiator etc (this is excapsulation)



Ans. One should make sure that all the included objects are also serializable. If any of the objects is not serializable then it throws a NotSerializable Exception.



Very frequently asked. Usually asked in different variants like Diff between StringBuffer, String Builder; Difference between StringBuilder and String class; Choice between these classes etc.



Q48. What is the difference between StringBuffer and String class?





Ans. A string buffer implements a mutable sequence of characters. A string buffer is like a String, but can be modified. At any point in time it contains some particular sequence of characters, but the length and content of the sequence can be changed through certain method calls.

The String class represents character strings. All string literals in Java programs, such as "abc" are constant and implemented as instances of this class; their values cannot be changed after they are created.

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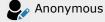




Try 1 Question(s) Test

Q49. What is JDBC? Describe the steps needed to execute a SQL query using Database JDBC.





Ans. The JDBC is a pure Java API used to execute SQL statements. It provides a set of classes and interfaces that can be used by developers to write database applications.

The steps needed to execute a SQL query using JDBC:

- 1. Open a connection to the database.
- 2. Execute a SQL statement.

- 3. Process th results.
- 4. Close the connection to the database.















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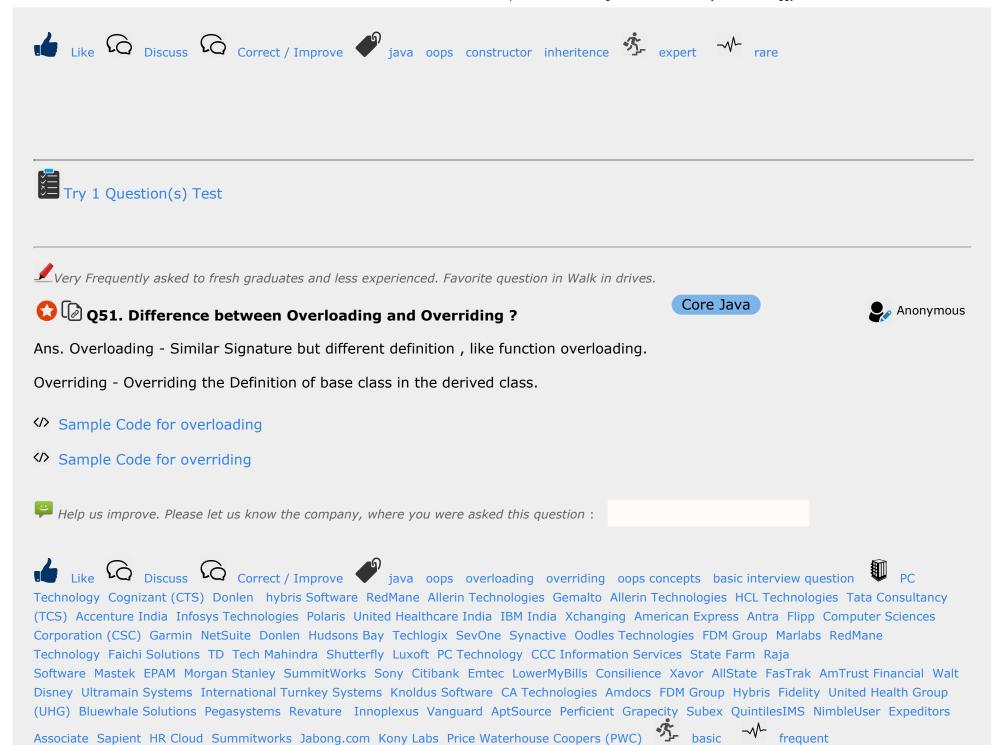
Q50. Are constructors inherited? Can a subclass call the parent's class Core Java constructor? When?

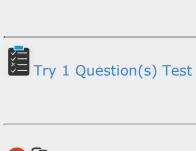




Ans. You cannot inherit a constructor. That is, you cannot create a instance of a subclass using a constructor of one of it's superclasses. One of the main reasons is because you probably don't want to override the superclasses constructor, which would be possible if they were inherited. By giving the developer the ability to override a superclasses constructor you would erode the encapsulation abilities of the language.

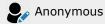
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Q52. Difference between Vector and ArrayList ?

Core Java



Ans. Vectors are synchronized whereas Array lists are not.

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Worldwide HARMAN Starmount iConsultus KARYA Technologies Smart Chip Cuelogic Technologies Kronos Trigent Software Deloitte ACI
Worldwide Unisys Tavant Technologies Referance data

Q53. Difference between object instantiation and construction?

Core Java



Ans. Though It's often confused with each other, Object Creation (Instantiation) and Initialization (Construction) are different things in Java. Construction follows object creation.

Object Creation is the process to create the object in memory and returning its handler. Java provides New keyword for object

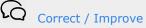
creation.

Initialization is the process of setting the initial / default values to the members. Constructor is used for this purpose. If we don't provide any constructor, Java provides one default implementation to set the default values according to the member data types.

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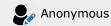




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Ans. Yes.we cannot access them directly but we can access them using object reference. Static methods belong to a class and not objects whereas non static members are tied to an instance. Accessing instance variables without the instance handler would mean an ambiguity regarding which instance the method is referring to and hence its prohibited.

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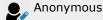


Very frequently asked in phone and walk in interviews.



O55. What are Marker Interfaces? Name few Java marker interfaces?





Ans. These are the interfaces which have no declared methods. Serializable and cloneable are marker interfaces.







Try 1 Question(s) Test







Ans. Spring enables developers to develop enterprise-class applications using POJOs. The benefit of using only POJOs is that you do not need an EJB container product.

Spring is organized in a modular fashion. Even though the number of packages and classes are substantial, you have to worry only about ones you need and ignore the rest.

Spring does not reinvent the wheel instead, it truly makes use of some of the existing technologies like several ORM frameworks, logging frameworks, JEE, Quartz and JDK timers, other view technologies.

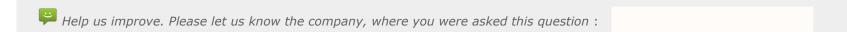
Testing an application written with Spring is simple because environment-dependent code is moved into this framework. Furthermore, by using JavaBean-style POJOs, it becomes easier to use dependency injection for injecting test data.

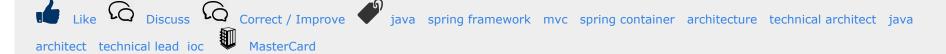
Spring \tilde{A} ¢ \hat{a} , $\neg \hat{a}$, ¢s web framework is a well-designed web MVC framework, which provides a great alternative to web frameworks such as Struts or other over engineered or less popular web frameworks.

Spring provides a convenient API to translate technology-specific exceptions (thrown by JDBC, Hibernate, or JDO, for example) into consistent, unchecked exceptions.

Lightweight IoC containers tend to be lightweight, especially when compared to EJB containers, for example. This is beneficial for developing and deploying applications on computers with limited memory and CPU resources.

Spring provides a consistent transaction management interface that can scale down to a local transaction

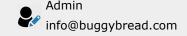






Q57. What are various types of Class loaders used by JVM?

Core Java



Ans. Bootstrap - Loads JDK internal classes, java.* packages.

Extensions - Loads jar files from JDK extensions directory - usually lib/ext directory of the JRE

System - Loads classes from system classpath.







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Ans. 1.this is a reference to the current object in which this keyword is used whereas super is a reference used to access members specific to the parent Class.

2.this is primarily used for accessing member variables if local variables have same name, for constructor chaining and for passing itself to some method whereas super is primarily used to initialize base class members within derived class constructor.

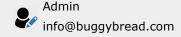
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Q59. What are the disadvantages of using arrays?

Core Java



Ans. Arrays are of fixed size and have to reserve memory prior to use. Hence if we don't know size in advance arrays are not recommended to use.

Arrays can store only homogeneous elements.

Arrays store its values in contentious memory location. Not suitable if the content is too large and needs to be distributed in memory.

There is no underlying data structure for arrays and no ready made method support for arrays, for every requriment we need to code explicitly

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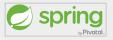


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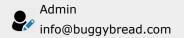


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Q60. What is a stream and what are the types of Streams and classes of the Streams?





Ans. A Stream is an abstraction that either produces or consumes information. There are two types of Streams:

Byte Streams: Provide a convenient means for handling input and output of bytes.

Character Streams: Provide a convenient means for handling input & output of characters.

Byte Streams classes: Are defined by using two abstract classes, namely InputStream and OutputStream.

Character Streams classes: Are defined by using two abstract classes, namely Reader and Writer.



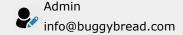




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Ans. Collections can only hold objects, It can't hold primitive data types.

Collections have performance overheads as they deal with objects and offer dynamic memory expansion. This dynamic expansion could be a bigger overhead if the collection class needs consecutive memory location like Vectors.

Collections doesn't allow modification while traversal as it may lead to concurrentModificationException.

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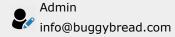


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Q62. What is Generalization and Specialization in terms of casting?

Core Java



Ans. Generalization or UpCasting is a phenomenon where a sub class is prompted to a super class, and hence becomes more general. Generalization needs widening or up-casting. Specialization or DownCasting is a phenomenon where a super class is narrowed down to a sub class. Specialization needs narrowing or down-casting.

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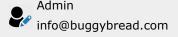


Advanced level question usually asked to senior developers , leads and architects.



Q63. How does volatile affect code optimization by compiler?

Core Java



Ans. Volatile is an instruction that the variables can be accessed by multiple threads and hence shouldn't be cached. As volatile variables are never cached and hence their retrieval cannot be optimized.

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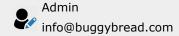


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Q64. How compiler handles the exceptions in overriding?





Ans. 1)The overriding methods can throw any runtime Exception , here in the case of runtime exception overriding method (subclass method) should not worry about exception being thrown by superclass method.

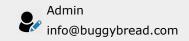
- 2)If superclass method does not throw any exception then while overriding, the subclass method can not throw any new checked exception but it can throw any runtime exception
- 3) Different exceptions in java follow some hierarchy tree(inheritance). In this case, if superclass method throws any checked exception, then while overriding the method in subclass we can not throw any new checked exception or any checked exception which are higher in hierarchy than the exception thrown in superclass method



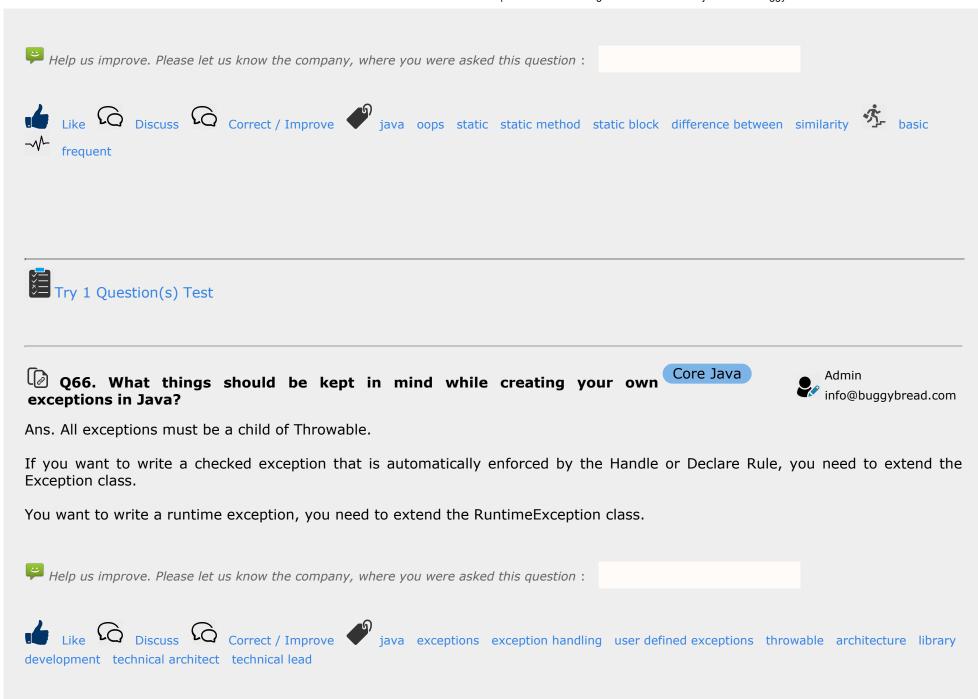








Ans. Both belong to the class as a whole and not to the individual objects. Static methods are explicitly called for execution whereas Static block gets executed when the Class gets loaded by the JVM.





Frequently asked to fresh graduates and less experienced.



Q67. Difference between Compositions and Inheritance?





Ans. Inheritance means a object inheriting reusable properties of the base class. Compositions means that an abject holds other objects.

In Inheritance there is only one object in memory (derived object) whereas in Composition, parent object holds references of all composed objects.

From Design perspective - Inheritance is "is a" relationship among objects whereas Composition is "has a" relationship among objects.

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Q68. Difference between Static and Singleton Class?

Core Java

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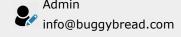
- Ans. 1. Static class is a class which cannot be instantiated and all its members are static whereas Singleton is the class that only permit creation of single object and then the object is reused.
- 2. As there is no object in Static class, it cannot participate in runtime Polymorphism.
- 3. As Static class doesn't allow creating objects and hence it cannot be serialized.
- 4. Static class body is initialized eagerly at application load time whereas Singleton object can be initiated eagerly using static blocks or lazily on first need.
- 5. Its not recommended to use pure static class as it fails to use many OOPs concepts.



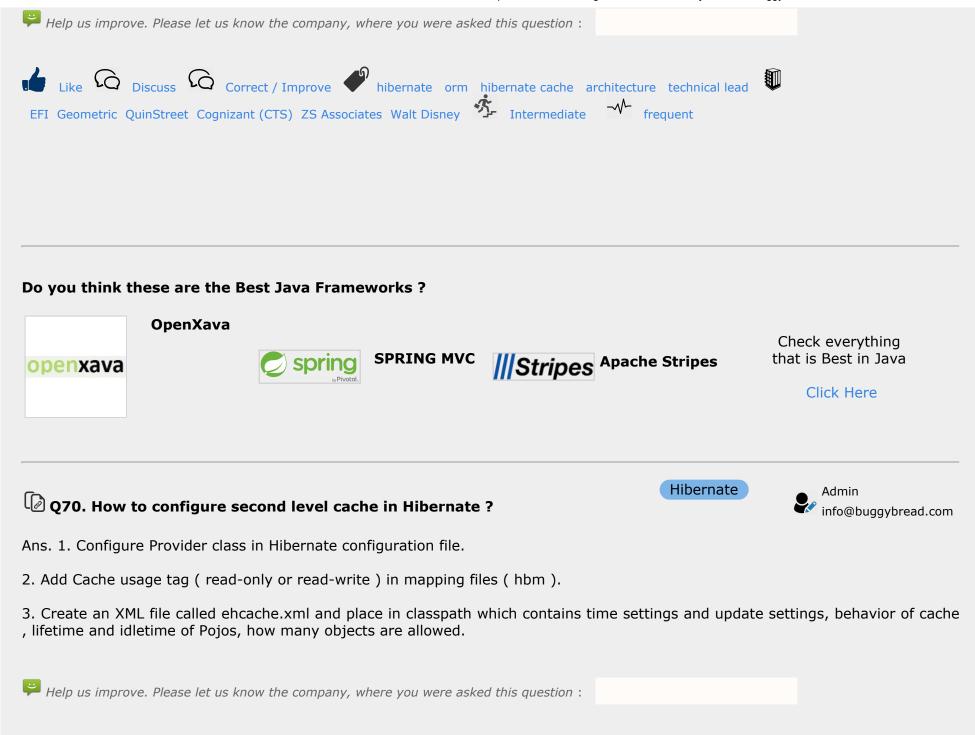
Frequently asked question in companies using hibernate.

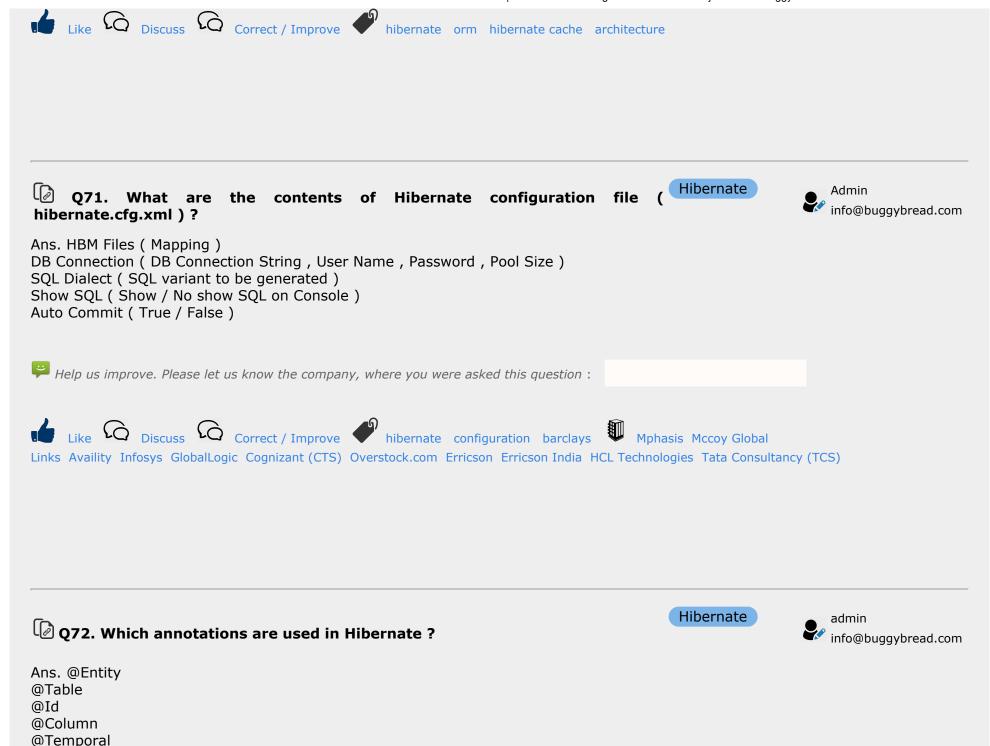
Q69. Difference between first level and second level cache in hibernate?





- Ans. 1. First level cache is enabled by default whereas Second level cache needs to be enabled explicitly.
- 2. First level Cache came with Hibernate 1.0 whereas Second level cache came with Hibernate 3.0.
- 3. First level Cache is Session specific whereas Second level cache is shared by sessions that is why First level cache is considered local and second level cache is considered global.





- 9/26/2017 @Basic @Enumerated @Access @Embeddable @Lob @AttributeOverride @Embedded @GeneratedValue @ElementCollection @JoinTable @JoinColumn @CollectionId @GenericGenerator @OneToOne @OneToMany @ManyToOne @ManyToMany @NotFound
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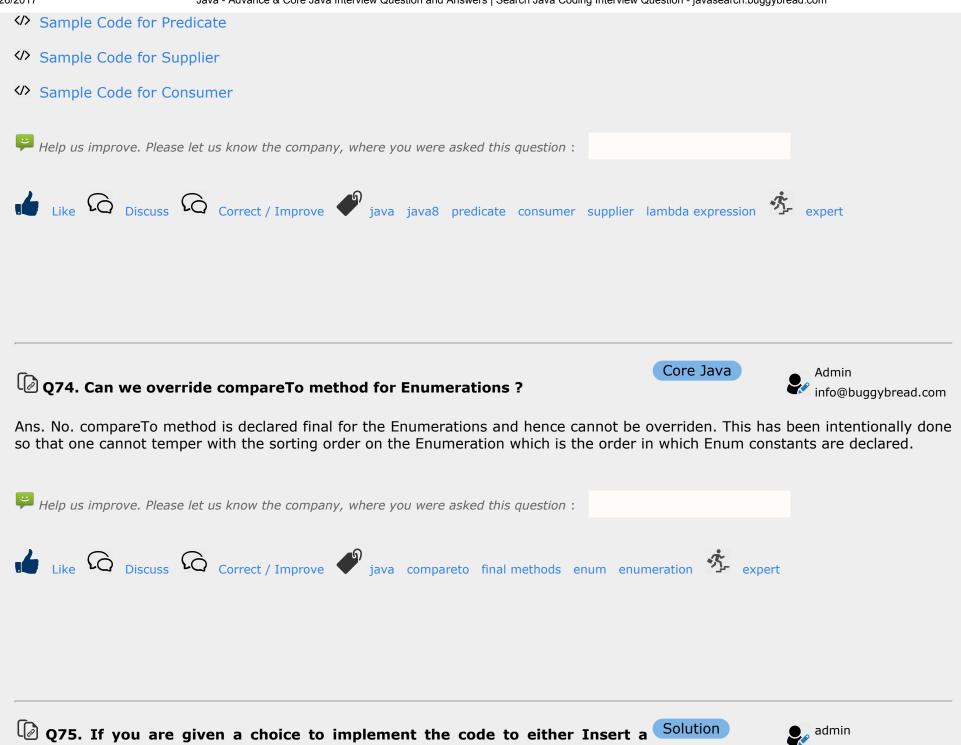


Core Java info@buggybread.com

Ans. Predicate represents an anonymous function that accepts one argument and produces a result.

Supplier represents an anonymous function that accepts no argument and produces a result.

Consumer represents an anonymous function that accepts an argument and produces no result.



Record or Update if already exist, Which approach will you follow?

info@buggybread.com

- 1. Insert into the DB Table. If exception occurs, update the existing record.
- 2. Check if the record exists and update it if it exists, If not insert a new record.

Ans. In first case, there would be 2 DB calls in worst case and 1 in best case. In 2nd approach there will be always 2 DB calls.

Decision on the approach should depend on the following considerations -

1. How costly is the call to DB? Are we using indices, hibernate etc

If calls to DB are costly, 1st approach should be the choice.

2. Exception Book keeping load upon exception.

The benefit of saving 1st call in approach 1 should be bigger than the Book keeping for the exception.

3. Probability of the exception in first apparoach.

If the DB Table is almost empty, it makes sense to follow Approach 1 as majority of the 1st calls will pass through without exception.

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Very Frequently asked.



Q76. Explain throw, throws , try and catch in Java ?

Core Java



Ans. throw is used to re throw an exception.

throws is used to declare that the method throws the respective exceptions.

try block is used to identify if the respective block has thrown any exception.

catch is used to catch the exception that has been thrown by the respective try block.

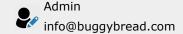
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Ans. Transitive dependency is the dependencies not defined directly in the current POM but the POM of the dependent projects.

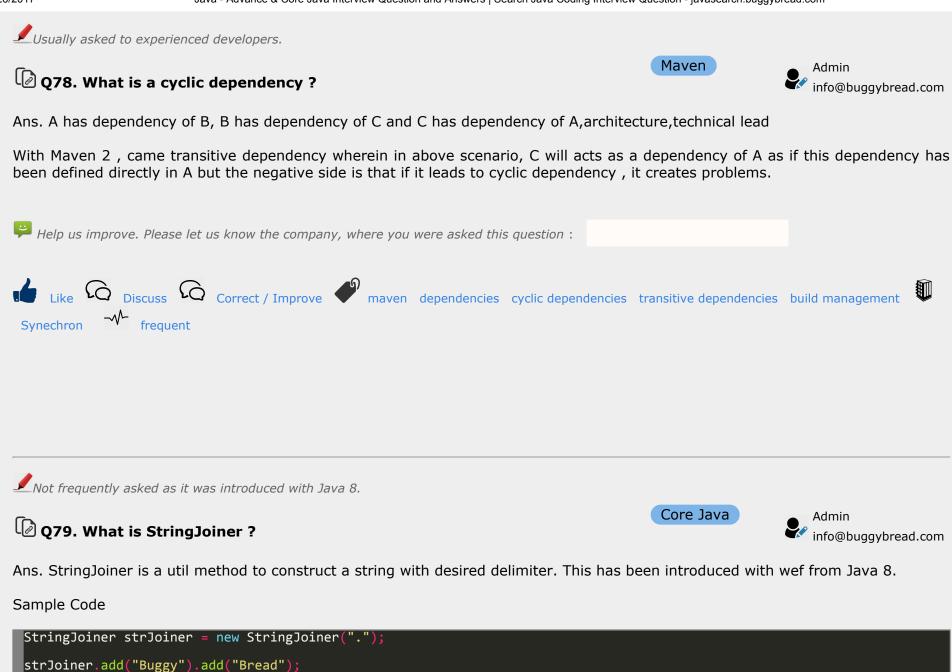
Yes we can override transitive dependency version by specifying the dependency in the current POM.

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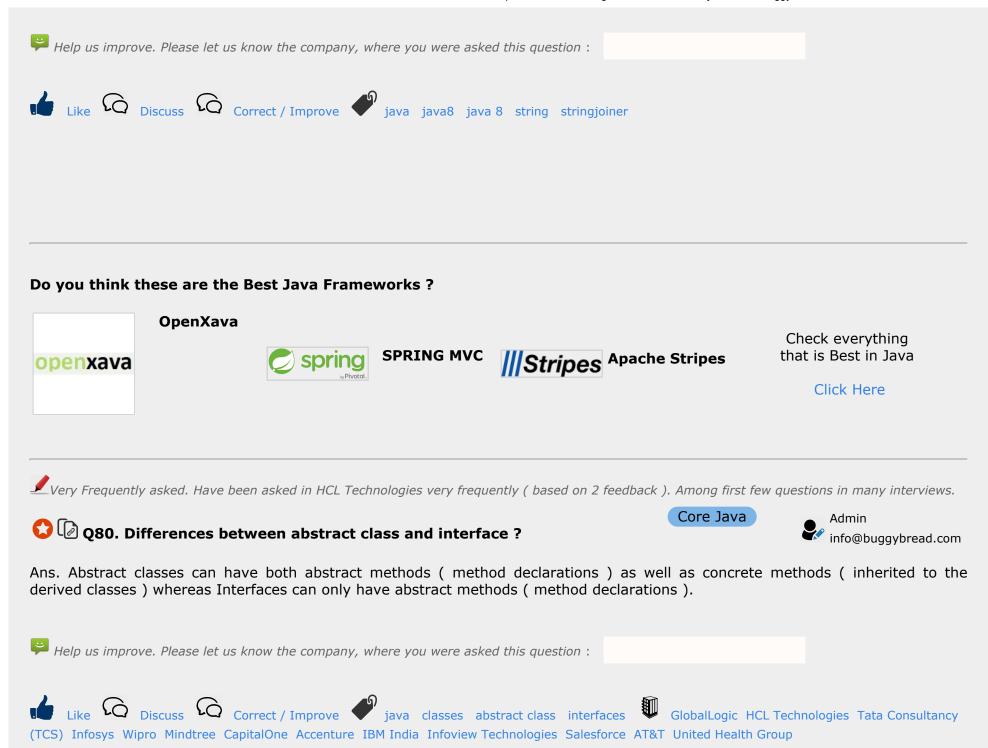




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System.out.println(strJoiner); // prints Buggy.Bread



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Core Java



- a. Methods, Variables and Initialization Blocks.
- b. Methods , Variables , Initialization Blocks and Outer Classes and nested Classes.
- c. Methods, Variables, Initialization Blocks and Outer Classes.
- d. Methods, Variables, Initialization Blocks and nested Classes

Ans. Methods, Variables, Initialization Blocks and nested Classes

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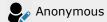
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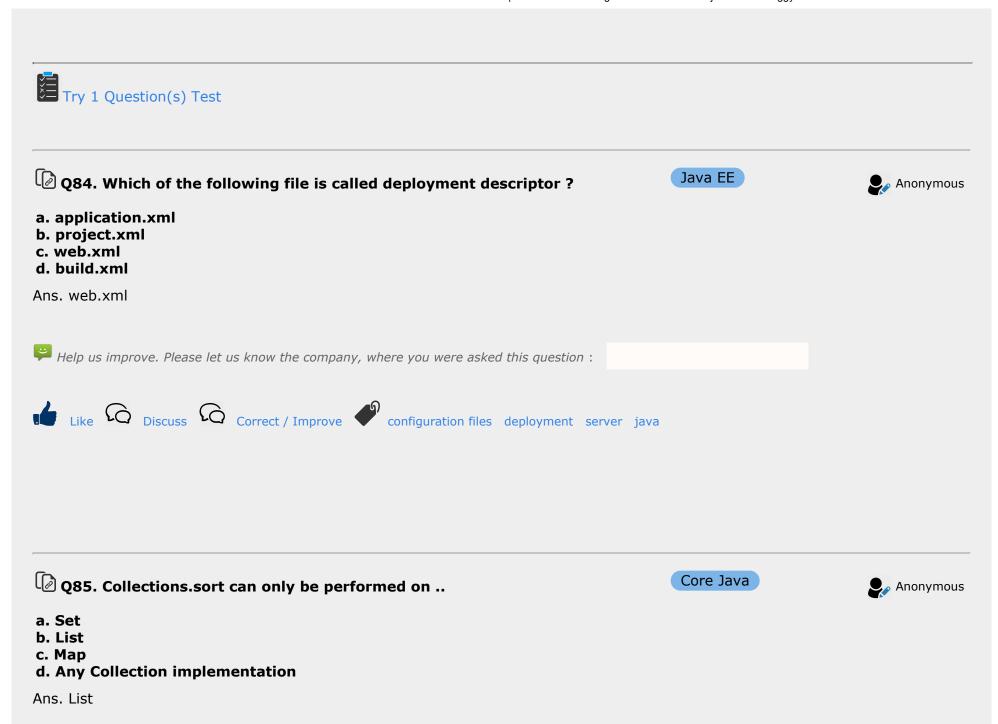
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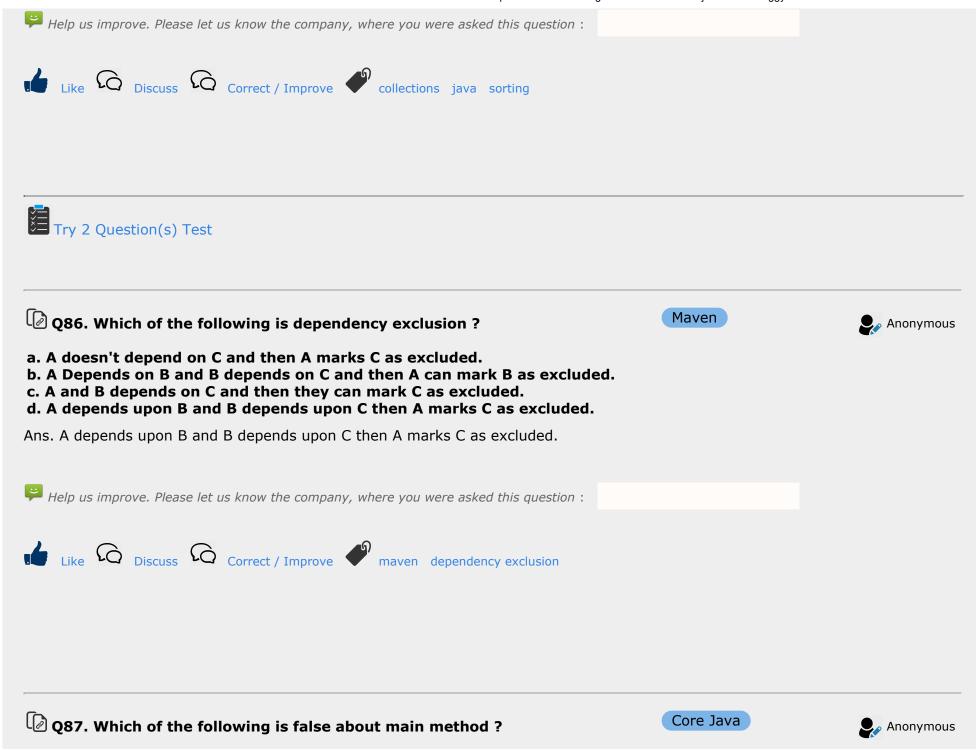
Q82. Which of the following collections stores its elements in insertion Core Java Order?





a. HashMap b. TreeMap c. LinkedHashMap d. LinkedMap Ans. LinkedHashMap Help us improve. Please let us know the company, where you were asked this question: Like Discuss Correct / Improve Iinkedhashmap collections java map Q83. In what order the elements of a HashSet are retrieved? Core Java Anonymous a. Random Order **b.** Insertion Order c. Natural Sorting Order d. Inverse Natural Sorting Order Ans. Random Order Help us improve. Please let us know the company, where you were asked this question : Like Discuss Correct / Improve collections set hashset java





- a. It should be declared public and static
- b. it should have only 1 argument of type String array
- c. We can override main method
- d. We can overload main method

Ans. We can override main method







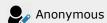




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- a. Constructor can be overloaded
- b. A no argument constructor is provided by the compiler if we declare only constructors with arguments.
- c. Constructors shouldn't have any return types, not even void.
- d. If super is not explicitly called, still super() is intrinsically added by the compiler.

Ans. A no argument constructor is provided by the compiler if we declare only constructors with arguments.

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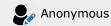


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Core Java



- a. Set
- b. List
- с. Мар
- d. Queue

Ans. Map

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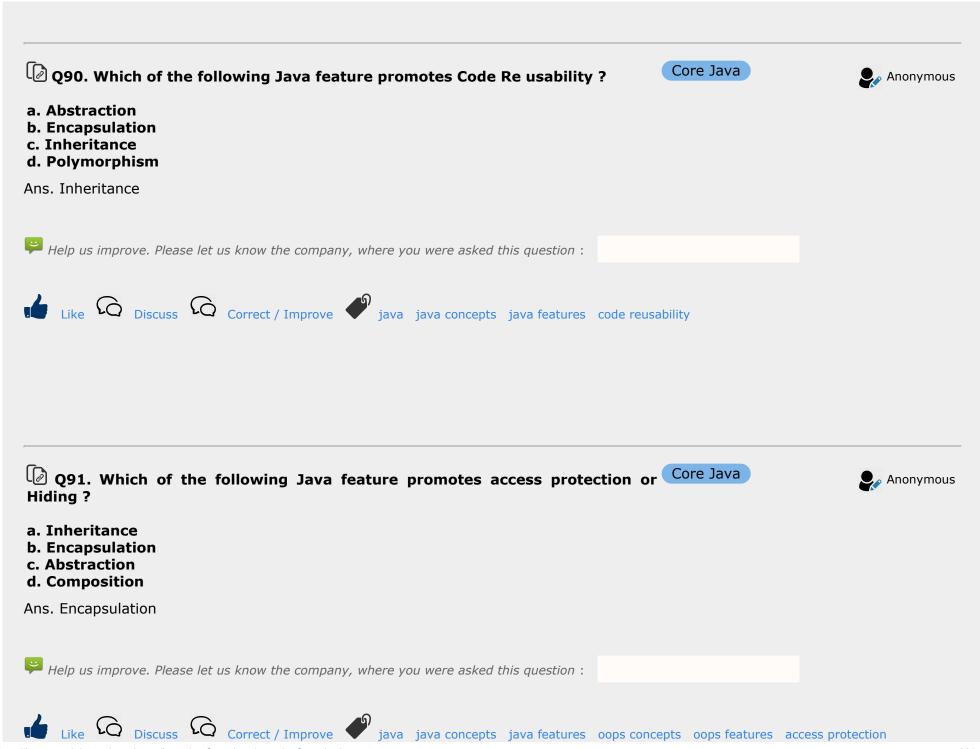
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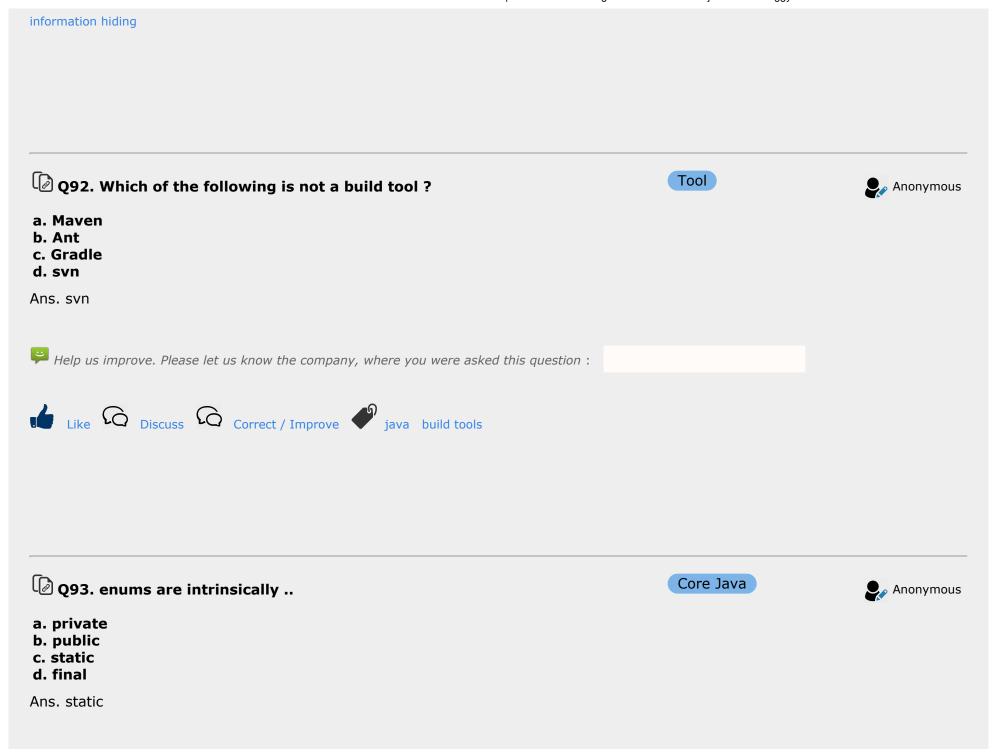


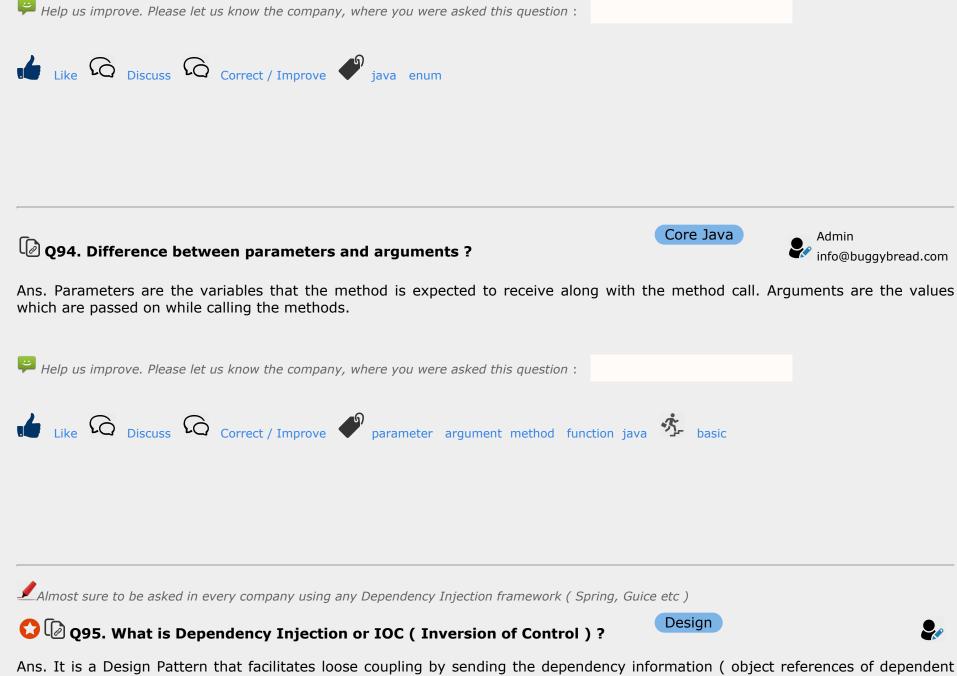


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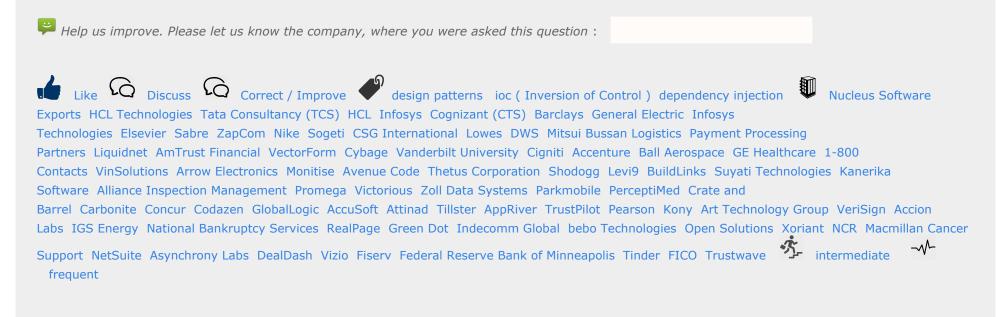
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Ans. It is a Design Pattern that facilitates loose coupling by sending the dependency information (object references of dependent object) while building the state of the object. Objects are designed in a manner where they receive instances of the objects from other pieces of code, instead of constructing them internally and hence provide better flexibility.



Q96. In which cases , moving methods to utility class could be useful ?

Core Java



Ans. It could be worthy to move a method to util class if the method needs to be shared, doesn't require polymorphic behavior and need not be overridden in special cases.

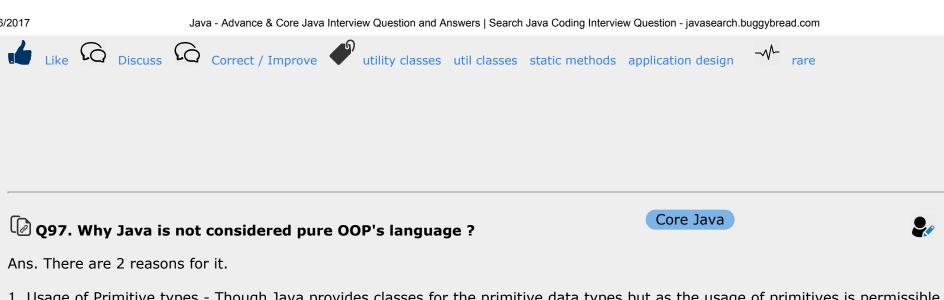
Don't belong to one group through is-a relationship (You can share through parent class method)

Don't implement a specific interface (java 8 default methods)

Doesn't involve complex computing as you will be loosing the benefit of object state with just static method.

Doesn't require polymorphic behavior as static methods don't participate in runtime polymorphism.

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- 1. Usage of Primitive types Though Java provides classes for the primitive data types but as the usage of primitives is permissible, its considered unpure OOP's language.
- 2. Usage of Static members Static members belong to the class and not objects and hence not considered fit for pure OOP's programming.
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In this question can be asked in different variants like performace improvement of an application, improving performance for DB communication etc.

Q98. What are the ways in which execution time of the code can be improved?



2016-05-29 09:42:39



Ans. This depends on entirely upon the code type. For example

- 1.If its just logic, we can try it to short circuit or put the if / switch case with maximum probability in the beginning.
- 2. Can use faster data structures, for eg random retrieval instead of sequence / iterator
- 3. Working with primitive types or even bytes instead of Objects, even though it may result in marginal improvement.
- 4. If its service call, then service call with bulk load can help
- 5. If DB Operation, then with use of Indices, Views or using ORM, cache etc.







Core Java 2016-0

2016-06-03 10:09:28

Ans. Constructors are used for initializing the object state once it is initialized and memory has been reserved for it.

Destructor is used to de-allocate memory allocated by objects.

There are no destructors in Java. Alternatively, Java provides Automatic garbage collection i.e automatically releasing the unreferenced memory.

⟨→ Sample Code for constructor

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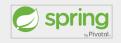




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Q100. What is the use of deployment descriptor?



2016-06-04 22:46:40



Ans. Deployment Descriptor which is usually web.xml is used to specify the classes, resources and configuration of the application and how the web server uses them to serve web requests. This file is usually added to WEB-INF folder and contains following

- * Servlet entries and url mapping
- * Plugins
- * Some info regarding authentication / filters
- * Landing Page
- * Event Handlers

