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223. org/overriding-in-java/)
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268. What are common algorithms implemented in Collections Framework?
269. What is Big-O notation? Give some examples?
270. What are best practices related to Java Collections Framework?
271. What is Java Priority Queue?
272. Why can’t we write code as List<Number> numbers = new ArrayList<Integer>();?
273. Why can’t we create generic array? or write code as List<Integer>[] array = new ArrayList<Integer>[10];
274. ConcurrentHashMap vs Hashtable vs Synchronized Map
275. What is the output of below program?
     1. package com.journaldev.strings;
     2. public class StringTest {
        1. public static void main(String[] args) {
           1. String s1 = new String("pankaj");
           2. String s2 = new String("PANKAJ");
           3. System.out.println(s1 = s2);
        2. }
     3. }
     4. It’s a simple yet tricky program, it will print “PANKAJ” because we are assigning s2 String to s1. Don’t get confused with == comparison operator.
     5. What is the output of below program?
     6. package com.journaldev.strings;
     7. public class Test {
        1. public void foo(String s) {
        2. System.out.println("String");
        3. }
        4. public void foo(StringBuffer sb){
        5. System.out.println("StringBuffer");
        6. }
        7. public static void main(String[] args) {
           1. new Test().foo(null);
        8. }
     8. }
     9. The above program will not compile with error as “The method foo(String) is ambiguous for the type Test”. For complete clarification read Understanding the method X is ambiguous for the type Y error.
276. What will be the output of below program?
     1. String s1 = "abc";
     2. String s2 = new String("abc");
     3. s2.intern();
     4. System.out.println(s1 ==s2);
     5. It’s a tricky question and output will be false. We know that intern() method will return the String object reference from the string pool, but since we didn’t assigned it back to s2, there is no change in s2 and hence both s1 and s2 are having different reference. If we change the code in line 3 to s2 = s2.intern(); then output will be true.
277. What is use of @qualifier can we use qualifier without @autowired
278. How json serlization and deserlization works in java (@JsonComponent , @Jsonsearlization ,@jsondeserlization)
279. Write a program to remove duplicates in LinkedList
280. Changes done in Hashmap in Java 1.8
281. {1,2,3,4,5} if key=2 we need to transfer first two elements to last {3,4,5,1,2}
282. Usage of Http2 VS Http1 (In http1 we use TCP connection we migrated to TLP connection which will improve latency)
283. Difference between post and PUT with idopnent example <https://restfulapi.net/rest-put-vs-post/>

POST is NOT idempotent.

GET, PUT, DELETE, HEAD, OPTIONS and TRACE are idempotent.

1. Usage of LinkedList and ArrayList
2. Http Response code

100 Continue Only a part of the request has been received by the server, but as long as it has not been rejected, the client should continue with the request.

101 Switching Protocols The server switches protocol.

200 OK The request is OK.

201 Created The request is complete, and a new resource is created .

202 Accepted The request is accepted for processing, but the processing is not complete.

203 Non-authoritative Information The information in the entity header is from a local or third-party copy, not from the original server.

204 No Content A status code and a header are given in the response, but there is no entity-body in the reply.

205 Reset Content The browser should clear the form used for this transaction for additional input.

206 Partial Content The server is returning partial data of the size requested. Used in response to a request specifying a Range header. The server must specify the range included in the response with the Content-Range header.

300 Multiple Choices A link list. The user can select a link and go to that location. Maximum five addresses .

301 Moved Permanently The requested page has moved to a new url .

302 Found The requested page has moved temporarily to a new url .

303 See Other The requested page can be found under a different url .

304 Not Modified This is the response code to an If-Modified-Since or If-None-Match header, where the URL has not been modified since the specified date.

305 Use Proxy The requested URL must be accessed through the proxy mentioned in the Location header.

306 Unused This code was used in a previous version. It is no longer used, but the code is reserved.

307 Temporary Redirect The requested page has moved temporarily to a new url.

400 Bad Request The server did not understand the request.

401 Unauthorized The requested page needs a username and a password.

402 Payment Required You cannot use this code yet.

403 Forbidden Access is forbidden to the requested page.

404 Not Found The server can not find the requested page.

405 Method Not Allowed The method specified in the request is not allowed.

406 Not Acceptable The server can only generate a response that is not accepted by the client.

407 Proxy Authentication Required You must authenticate with a proxy server before this request can be served.

408 Request Timeout The request took longer than the server was prepared to wait.

409 Conflict The request could not be completed because of a conflict.

410 Gone The requested page is no longer available .

411 Length Required The "Content-Length" is not defined. The server will not accept the request without it .

412 Precondition Failed The pre condition given in the request evaluated to false by the server.

413 Request Entity Too Large The server will not accept the request, because the request entity is too large.

414 Request-url Too Long The server will not accept the request, because the url is too long. Occurs when you convert a "post" request to a "get" request with a long query information .

415 Unsupported Media Type The server will not accept the request, because the mediatype is not supported .

416 Requested Range Not Satisfiable The requested byte range is not available and is out of bounds.

417 Expectation Failed The expectation given in an Expect request-header field could not be met by this server.

500 Internal Server Error The request was not completed. The server met an unexpected condition.

501 Not Implemented The request was not completed. The server did not support the functionality required.

502 Bad Gateway The request was not completed. The server received an invalid response from the upstream server.

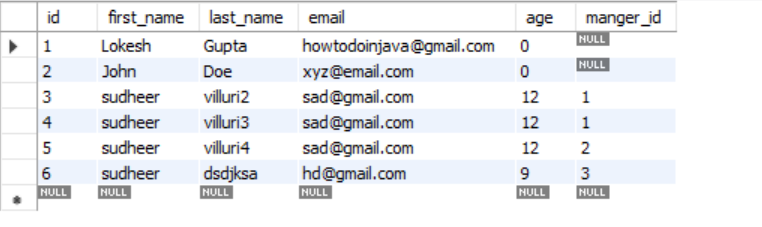
503 Service Unavailable The request was not completed. The server is temporarily overloading or down.

504 Gateway Timeout The gateway has timed out.

505 HTTP Version Not Supported The server does not support the "http protocol" version.

1. Write a program from Queue using two stacks
2. AAABBCCDDAA -> A3B2C2D2A2
3. [4,5,67,12,32] -> k=2 -> rotate elements [67l]
4. N+1 Problem in ORM and Rest how you will overcome that

Avoid using One to many relationship by created a query for selecting required element rather than fetching all dependents which will improve the performance of 15 min to 1.5 sec

1. Types of Overloading (method overloading and constructor overloading )
2. Internal implementation of Collections.sort() will it use comporator or comparable
3. What is Diamond interface and how it handled in java8
4. 

Print the managers name who have more than one reporties

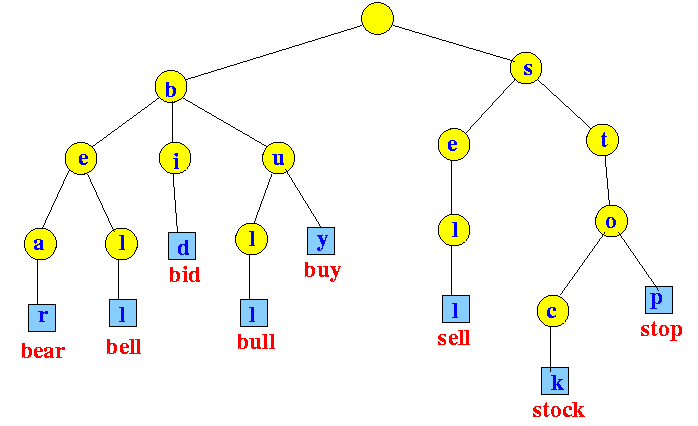
select Emp.\* from test.tbl\_employees Emp join (SELECT id,count(manger\_id) as count2,manger\_id from test.tbl\_employees group by manger\_id) mang

ON Emp.id = mang.manger\_id AND mang.count2 >1

1. Find 3rd Highest salary

select ename,sal from test.emp em1 where 1 = (select count(DISTINCT sal) from test.emp em2 WHERE em2.sal > em1.sal)

1. What are design pattern you used with examples
2. IOC
3. PROXY Design pattern (EXP AOP)
4. Singleton Design pattern (IOC Container)
5. MVC Desing patteren
6. Templete method (Spring framework provides a number of templates to kick start work and complete that piece of work as the best programming practice such as opening and closing connection for JDBC or JMS, etc. E.g., JdbcTemplate, JmsTemplate, and JpaTemplate.)
7. Why Hibernate session is thread safe
8. When to use ConcurrentHashmap vs Synchronius Hashmap
9. Usage of Hascode in Object class and Hashcode v/s Hashvalue
10. How Producer consumer concept works
11. Internal implementation of Hashmap vs TreeMap
12. trie data structure (A **Trie** is a special **data structure** used to store strings that can be visualized like a graph. It consists of nodes and edges. Each node consists of at max 26 children and edges connect each parent node to its children.)



1. types of classloaders ?
2. Ouput of Sysout(“Heloo” + A == B) false
3. Output of Sysout(“Hello” + (A==B)) true
4. Output of Sysout(A = B) updated A value
5. Internal implementation of manytomany mapping in hibernate
6. Why and when we use TreeMap ? (We need TreeMap to get the sorted list of keys in ascending order.)
7. What is the runtime performance of the get() method in TreeMap and HashMap ,where n represents the number of elements ? (TreeMap implementation provides guaranteed log(n) time cost for the containsKey,get,put and remove operations.

HashMap implementation provides constant-time performance for the basic operations (get and put), assuming the hash function disperses the elements properly among the buckets.

One liner : TreeMap : log(n) HashMap : Constant time performance assuming elements disperses properly)

1. What is "natural ordering" in TreeMap ? ("Natural" ordering is the ordering implied by the implementation of the Comparable interface by the objects used as keys in the TreeMap. Essentially, RBTree must be able to tell which key is smaller than the other key, and there are two ways to supply that logic to the RBTree implementation: 1.Implement Comparable interface in the class(es) used as keys to TreeMap, or 2.Supply an implementation of the Comparator that would do comparing outside the key class itself.

Natural ordering is the order provided by the Comparable interface .If somebody puts the key that do not implement natural order then it will throw ClassCastException.)

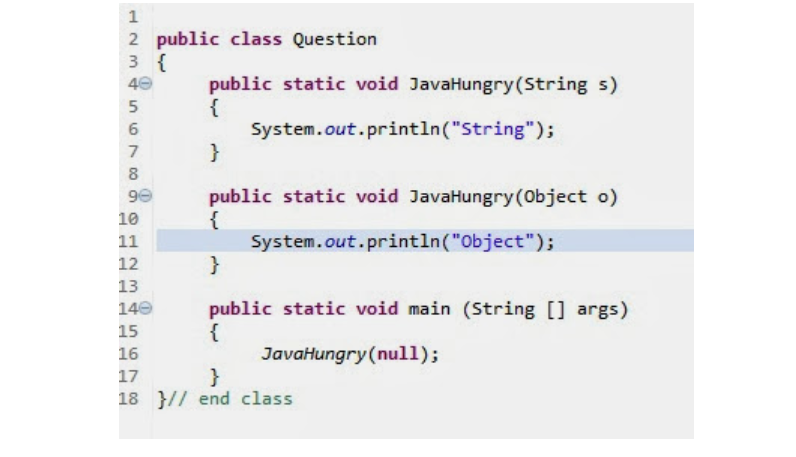
1. String Reversal Program using recursion
2. Why do we need TreeMap when we have sortedMap ?

sortedMap is a interface and TreeMap is the class implementing it .As we know one can not create objects of the interface . Interface tells us which methods a sortedMap implementation should provide .TreeMap is such an implementation.

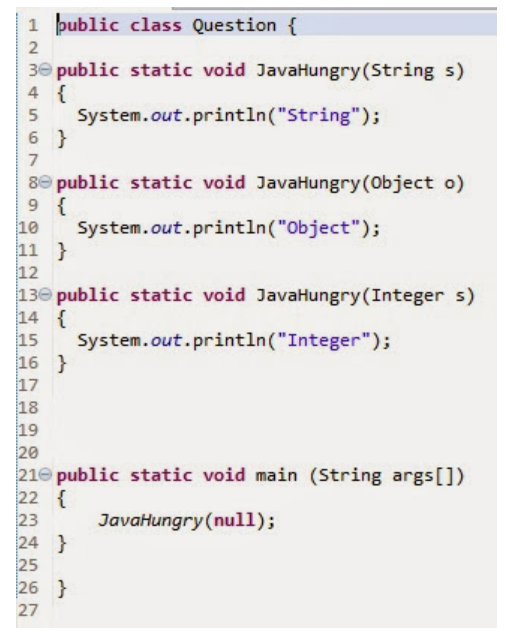
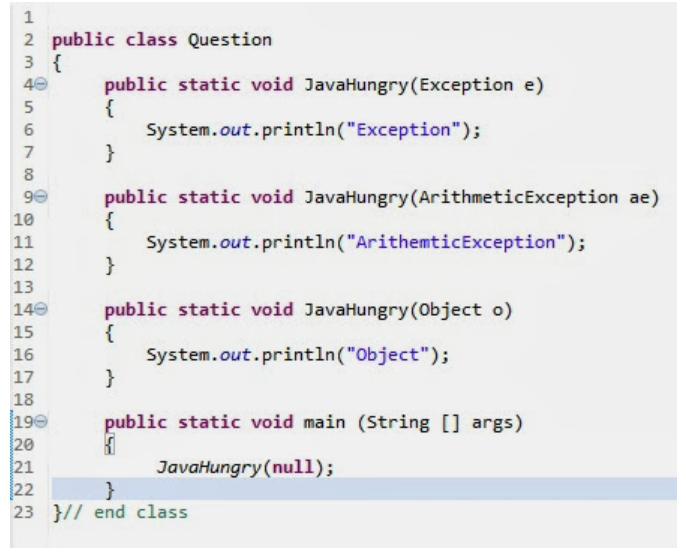
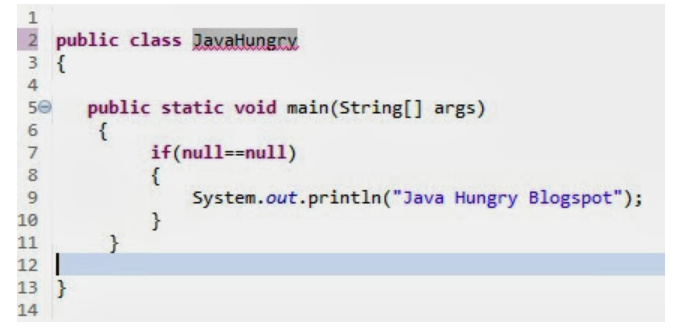
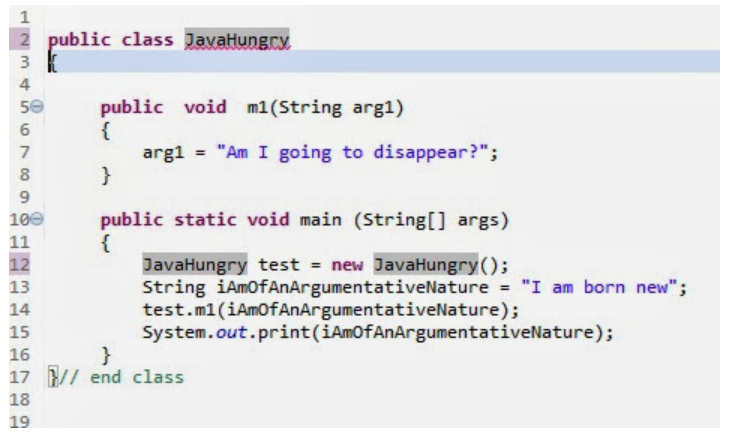
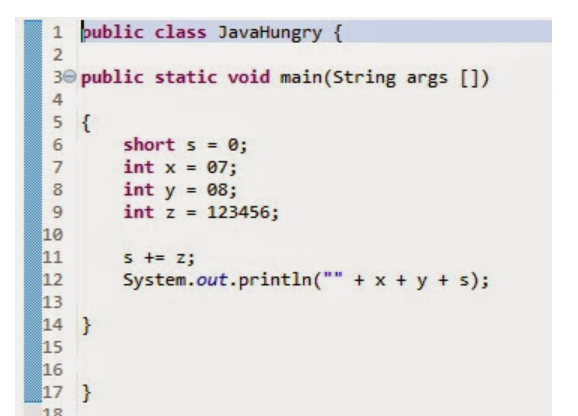
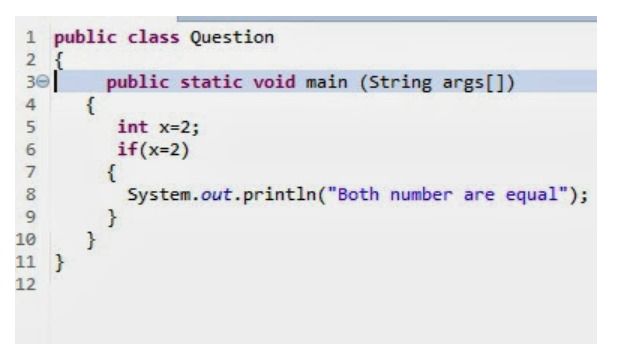
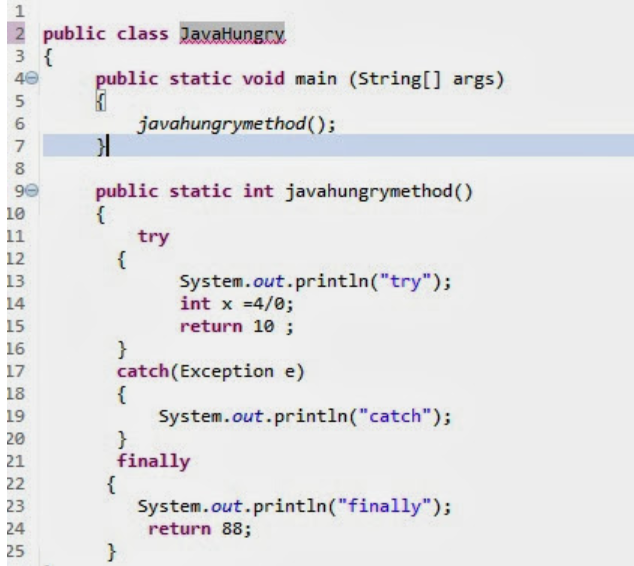
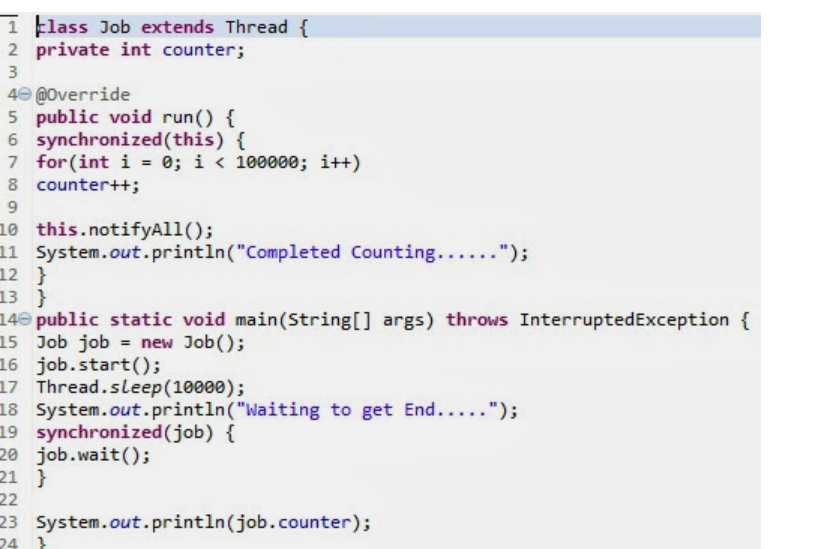
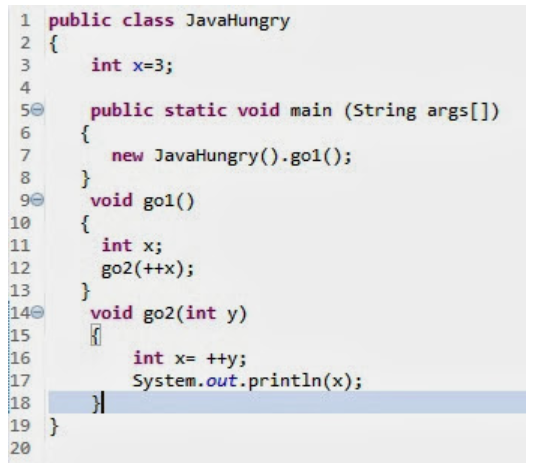
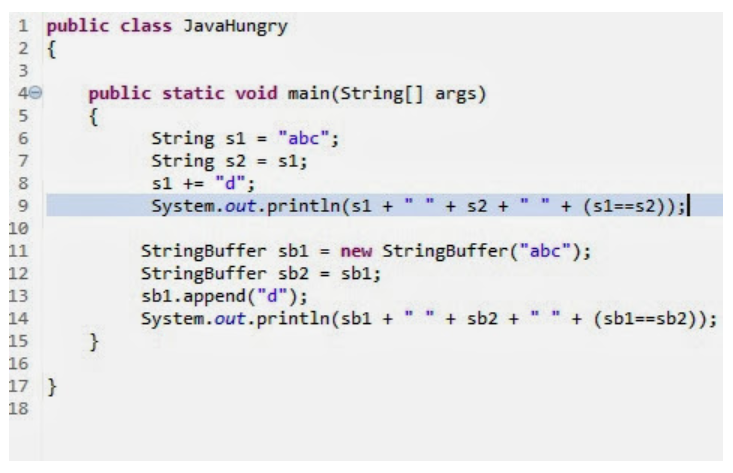
1. Which data structure you will prefer in your code : HashMap or TreeMap ? (HashMap is faster while TreeMap is sorted .Thus we choose them according to their advantage. If you do not want to sort the elements but just to insert and retrieve the elements then use HashMap .

But if you want to maintain the order of the elements then TreeMap should be preferred because the result is alphabetically sorted .While iterating HashMap there is no ordering of the elements ,on the other hand , TreeMap iterates in the natural key order.)

1. What happens if the TreeMap is concurrently modified while iterating the elements ? (The iterator fails fast and quickly if structurally modified at any time after the iterator is created (in any way except through the iterator's own remove method ). We already discussed the difference between Fail-fast and Fail safe iterators .)
2. Which copy technique (deep or shallow ) is used by the TreeMap clone() method ? (According to docjar , clone() method returns the shallow copy of the TreeMap instance . In shallow copy object B points to object A location in memory . In other words , both object A and B are sharing the same elements .The keys and values themselves are not cloned .)
3. Why java's treemap does not allow an initial size ? (HashMap reallocates its internals as the new one gets inserted while TreeMap does not reallocate nodes on adding new ones. Thus , the size of the TreeMap dynamically increases if needed , without shuffling the internals. So it is meaningless to set the initial size of the TreeMap .)
4. DeepCopy vs ShallowCopy ?
5. What is output of following code ?



Ans : Yes and String

1.  (No Error at line 23 ***Method is ambiguous***)
2.  (Yes, Arthemetic Exception)
3.  Yes , “Java Hungry Blogspot”
4. Yes, ”I am born new”
5.  ***No ,  Error at line 8***  
   ***Reason  :   Any  number starting with 0  is  an octal number***
6.  ***Compile :  No , Error at line 6***  
   ***Reason  :   Type mismatch , can not convert from int to boolean***
7.  ***Compile :  Yes***  
   ***Output  :   try***  
   ***catch***  
   ***finally***
8.  ***Compile :  Yes***  
   ***Output  :   Completed Counting . . . . . .***  
   ***Waiting to get End . . . . .      ( Infinite loop )***
9.  ***Compile :  No , Error at  line 12***  
   ***Reason  :  Local variable x  has not been initialized***
10.  ***Compile :  Yes***  
    ***Output  :    abcd abc false***  
    ***abcd abcd  true***
11. How May ways we can create object (new , (NewInstance) ,clone ,serilization,class.forName(),**newInstance() method of Constructor class**)

<https://www.geeksforgeeks.org/different-ways-create-objects-java/>