

Archan Singh

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CoderPad:

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1. First unique character of a string. E.g. aabdcce . Output : b
2. Find the dot product of two arrays - mean  $\text{array1}[i] * \text{array2}[i]$  (if the length of the two arrays are not equal then the loop should go for the lesser length).

Face to Face Interview:

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1. Asked for Hashing in depth.
2. Executor Service concepts, diff between Executor and ExecutorService, when to use what?
3. Code to insert a node in a link list.
4. Design Pattern-> Template pattern
5. Java 8 features - if local variables can be used in Lambda expressions (Ans - it can't be in Java 8 )
6. if 100 threads are running in parallel and we want to process threads in batch of 5 threads, how can be we do it? Ans - have a CyclicBarrier with count 5 and maintain a LinkedBlockingQueue for size 5 and create two threads T1 and T2. 5 threads reach the barrier, thread T1 add them to queue and reset the CyclicBarrier and Thread T2 will check when the queue is full process the threads.

Subham Das

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Face to Face Interview Questions:

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1. Try-catch-finally block:
  - a. Behaviour
  - b. What if there is a return statement in try as well as finally, which one will be returned and why? Explain
2. There is an EMP class with data members ID and Name, we need to store them in Descending order of their ID and if the IDs are same, then in ascending/natural order of their name. What data structure would you use and why? Solve the above problem. Followup questions as mentioned below:
  - a. Functionality of Comparator and Comparable
  - b. While defining the EMP class, what if EMP implement `Comparator<EMP>` instead of `Comparable<EMP>`, will that work, how will TreeSet (my answer on DS to be used was TreeSet, hence) initialization look like in that case?
3. There is a table with only one column "NAME", but the names can be duplicated. Write a SQL query to print the NAME and the frequency of the NAME that is the most frequent?
4. Questions on Overriding, Overloading and Covariant return types
5. There is a class A which has a method "void m1()". There is an another class 'ArrogantChild' which extends 'A', and overrides method m1(). How

can we accomplish that any subclass of 'ArrogantChild' do not override method m1(). Followup Questions as mentioned below:

a. What if the signature of method m1 in A is changed to "public void m1()" and "protected void m1()"?

6.You are given a text from a chat session, for simplicity consider that it is in a file, write the code (production ready) to find the most frequent word (exclude the fillers). Choice of Data structure that would be used, approach, how to scale, etc

7.Questions on Hibernate:

a. What if there is no primary key in a table, what/how to map @Id in the entity class? Say the table has some composite key.

b. When will we use @IdClass vs @EmbeddedId, or more precisely difference between the two approach?

8.Questions on Composite Key and Unique Index