

Reading Material-

Can one use an Employee class as a key in a HashMap? (This is a very important question. If this is not answered satisfactorily, mark the candidate as knowledge gap as best case scenario irrespective of answers to other questions / scenarios)

You are using a class from a library (say Student). You have a list of Student objects. You need to sort this list based on first name. How will you do it? Constraint: (You do not have the ability to change the source code of the Student class)

Consider a class Person with two attributes - String name and List<String> degrees. How will you make this class immutable. Ask what are the advantages of immutable classes. (If candidate is unable to answer atleast 2 of below questions, they should be marked as knowledge gap irrespective of answers to other questions / scenarios)

Consider a class A with a synchronized method
class A {
public void synchronized m1()
{ Thread.sleep(5000); }
}
We create two objects of this class - o1 and o2. We call o1.m1() on one thread and o2.m1() on another thread, at the same time. What will be the behaviour? Follow up with - how will you force these calls to execute one after the other

We have a Parent class with 2 methods walk and run. We have a child class which overrides both the methods. Both child class methods just call their respective Super implementation. Parent class run method calls walk().
class Parent {
Parent p = new Child();
p.run();
}
Tell the order in which each method is called

Given a List of integers (List<Integer>), write code in Java 8 style to get the sum of the squares of

all the odd numbers in the array.

Explain what the following command does on Unix: `chmod 764 file1`

We have a table called BookAuthor. It has two columns Book and Author, Book being unique column. Write a query to find the names of the authors who have written more than 10 books.

Given an array of n integers and a number k , find the pairs of numbers in the array such that the difference between the pair is k . Find the optimal solution with and without extra storage

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<https://malisper.me/an-algorithm-for-passing-programming-interviews/>