Feedback — Interview Questions: Hash Tables

Help

You submitted this homework on **Wed 12 Mar 2014 7:43 AM PDT**. You will be able to view your score after the deadline passes.

These interview questions are for your own enrichment and are not assessed. If you click the *Submit Answers* button, you will get a hint.

Question 1

4-SUM. Given an array $a[\ ]$ of N integers, the 4-SUM problem is to determine if there exist distinct indices i, j, k, and l such that $a[i] + a[j] = a[k] + a[l]$ Design an algorithm for the 4-SUM problem that takes time proportional to N^2 (under suitable technical assumptions).

Your Answer	Score	Explanation
Total	0.00 / 0.00	

Question Explanation

Hint: create a hash table with $\binom{N}{2}$ key-value pairs.

Question 2

Hashing with wrong hashCode() or equals(). Suppose that you implement a data type `OlympicAthlete` for use in a `java.util.HashMap`.

- Describe what happens if you override `hashCode()` but not `equals()`.
- Describe what happens if you override `equals()` but not `hashCode()`.
- Describe what happens if you override `hashCode()` but implement `public boolean equals(OlympicAthlete that)` instead of `public boolean equals(Object that)`.

Your Answer	Score	Explanation

Total	0.00 / 0.00

Question Explanation

Hint: it's code—try it and see!