Apple Software Engineer Interview Questions

May 17, 2016

- Implement a peek using a existing iterator next and hasnext function.

- What is the difference between weak and strong pointers

- Reverse a linked list recursively

- Why can't you use primitives in a hashmap.

- Traverse a binary tree recursively.

- Write a basic Fibonacci sequence implementation.

- How does delegation work?

- How does ARC work in Objective C, and how is it different from garbage collection?

- How would you design a data structure that is an array, but with so many elements such that the array almost fills up the entire RAM?

- How would you reverse a singly-linked list?

- What is the run time of a binary search tree.

- Find the most frequent element in an integer array.

- Is Java pass by value or pass by reference?

- What data structure would you use to auto complete a dialer when the phone may have thousands or hundreds of thousands of entries.

- Find the Kth largest number in an array.

- What is deadlock and how is it prevented? Intersection of two arrays with optimal Big O.

- What is the instruction used in Matlab to compute the standard deviation?

- Write a simple C++ algorithm involving standard input and output. Provide test cases.

- How do you design a system for detecting people around a door, predict whether this man will go into the door.

- Skyline problem.

- Given a set of interval tuples, find the longest overlapping interval.

- Given a huge log file of a web server, find the IP addresses that had exactly 1 request.

- A network is connected in a line, so that servers can talk only to the servers to their left or right. Servers know if they are the leftmost or rightmost servers. What's a protocol for every server to learn the full topology? How long does it take?

- Implement a queue using array or linkedlist.

- What is polymorphism?

- How could you approximate a non-linear function with only multiplication and additions.

- What are the techniques for allocating static and dynamic memory.

- Find the first non-repeated element in C.

- Given a binary search tree, print the nodes at each level on a separate line. With On time complexity and O1 space complexity.