

Amazon Interview Experience | Set 185 (For SDE1)

- Difficulty Level : \nHard
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Hi, Recently i was interviewed for Amazon SDE-1 Position in Hyderabad. There a telephonic round followed by 4 F2F rounds.

Telephonic Round:

1. Inserting an element into a BST
2. A array is increasing and then decreasing find the point where it stops increasing.

F2F Round 1:

1. Replace all the elements in the array with its next highest element to its right
Expected $O(n)$ Solution.

2. Given a binary tree and a value k . A path is called heavy path if the sum of the elements in the path (path from root to leaf) $> k$ remove all the paths from the tree which are not heavy i.e., tree should contain only heavy paths.

F2F Round 2:

1. Given a array find all the triplets which satisfy the triangle preoperty (sum of 2 sides should be greater than third side)

Sol: sort then $O(n^2 \log(n))$ using binary search.

2. Given a dependency where for example process p_1, p_2, p_3

$p_1: \{p_2, p_3\}$

$p_2: \{p_3\}$

$p_3: \{\}$

This means p_1 starts once p_2 and p_3 are complete

p_2 starts p_3 is complete

p_3 can start as it does not have any dependence.

Figure out strategy to find the order of execution of processes.

Ans: Topological sorting.

F2F Round 3:

1. Design a stack with push pop and find min operations in $O(1)$ time.

Ans: can be done using 2 Stacks

2. Given an input string and a dictionary of words, find out if the input string can be segmented into a space-separated sequence of dictionary words.

Solution <https://www.geeksforgeeks.org/dynamic-programming-set-32-word-break-problem/>

F2F Round 4:

Discussion of projects and current work experience.

Diameter of a binary tree in $O(n)$.

First devised $O(n^2)$ then optimized to $O(n)$

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