# **Amazon Interview | Set 90**

Difficulty Level :\nMedium

• Last Updated :\n20 Jun, 2019

#### 1. Phone Interview

- a. Given sorted array in decreasing order. Find first occurrence of given key.
- b. Find diameter of a binary tree.

# 2. Face to face 1 (Programing skill)

- a. Optimal Strategy For A Game
- b. Merge N sorted lists to a single sorted list but comparisons should be minimum

# 3. Face to face 2 (DS round)

- a. 1 represent A, 2 rep B etc and 26 rep Z. Given a number, find number of possible decoding for this number. No need to consider number starts with zero. Eg: input \xe2\x80\x93 1234, output \xe2\x80\x93 3(ABCD, AWD, LCD)
- b. How to find a loop in linked list. How to remove this loop.
- c. How to design LRU cache (looking for the DS\xe2\x80\x99s used and their interaction)

## 4. Face to face 3(Design)

a. A device need to upgrade and downgrade its software. Eg: mobile phone need to upgrade its OS. Design high level and low level.

(follow-up  $\xe2\xe2\xe2$ ) 1. form version X to Y is not possible but z can. 2. from current version to latest version not possible but we can upgrade to an intermediate version and then to latest version. What

DS will be effective here)

b. Design a semaphore.

## 5. Face to face 4(curtain raiser)

- a. HR questions including prev projects, best work etc
- b. Given a linked list where each node contains an extra arbitrary pointer which points to any node in the list. Write code to clone the list.
- b. Print vertical sum of a binary tree.
- c. Print a binary tree in vertical zig-zag order.

### 6. Manager round

- a. manager round HR questions. Team fit questions etc.
- b. Given a mathematical expression. How to design this expression evaluator using OOPs concept.

Each round consists of 1 to 1.30 Hrs.

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