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Amazon Interview Experience for SDE-1 (Off-Campus)

- Difficulty Level :\nHard
- Last Updated :\n03 Feb, 2022

Status: 2021 graduate

Work: SDE1

Applied through amazon job portal.

Round 1(Online Coding Test): 2 questions, 120 minutes

- Explanation with Time complexity and Space complexity
- Array Manipulation question (Not remembered actually)
- Rotting oranges (LC: medium)

Round 2(Technical Interview): No discussion on projects direct coding question were given

1. You are riding a bus, suppose in the East direction (bus direction will not change). Given the capacity of bus \xe2\x80\x98c\xe2\x80\x99 and an array such that [numberOfPassengers, PickUpLocation, DropLocation]. Check if you can drop all the passengers at their destinations. Return true or false

   eg:

   ```
   a. Bus capacity, c=4\r\n[[3,1,5],[2,2,6]] -> Return false
   ```

   Explanation: Bus capacity is 4. You pick 3 passengers at location 1, then your bus capacity will be 4-3=1. Now at location 2, two more passengers are waiting but your capacity is 1 so you can\xe2\x80\x99t pick 2 passengers. Hence, dropping all passengers at their destinations is not possible.

   ```
   b. Bus capacity, c=11\r\n[[3,2,7],[3,7,9],[8,3,9]] -> Return true
   ```

   Explanation:

   Capacity:11

   At location 2: Passengers = 3, Capacity = 11-3=8 (They will be drop at location 7)

   At location 3: Passengers = 8, Capacity = 8-8 =0 (They will be drop at location 9)

   At location 7: 3 people will be dropped, Capacity = 0+3=3,

   Passengers=3, New capacity = 3-3=0 (They will be drop at location 9)

   At location 9: All 11 passengers will be dropped (8+3).

   Hence, you pick all passengers and drop them all. Return true.

2. Given an array, count pairs such that (arr[i]+arr[j])%60==0

   ```
   eg. [30,20,150,100,40]\r\nOutput: 3
   ```

Explaination : (30+150) = 180 % 60 == 0 , Count=1

(20+100) = 120 % 60 == 0 , Count =2

(20+40) = 60 % 60 ==0, Count =3

Round 3(Technical Interview):

- Discussion on project
- Similar question with some twist: The twist is inseated of sum I need to return maximum product (tree also contains negative nodes {Keep in mind: Product of two negative nodes can give maximum positive product) https://www.geeksforgeeks.org/maximum-sum-nodes-binary-tree-no-two-adjacent/
- Reverse nodes in K-groups, LC: Hard

Round 4:

1. Basic introduction
2. Project discussion
3. Operating system question on \xe2\x80\x93 Internal and external fragmentation, best fit, next fit, worst fit, first fit, paging, virtual memory, different page replacement algorithms.
4. DBMS- Discussion on Normalisation and its type (1NF, 2NF, 3NF, BCNF)

Round 5:

- Introduction
- Discussion on projects

2 coding questions:

1. Print all pair of elements with minimum absolute difference in the array. Something like this \xe2\x80\x93 https://www.geeksforgeeks.org/sum-minimum-absolute-difference-array-element/#:~:text=For an element x present,abs is the absolute value.&text=Sort the array of size n.
2. Given an array, count pairs such that (arr[i]+arr[j])%60==0

   ```
   eg. [30,20,150,100,40]\r\nOutput: 3
   ```

   Explaination:
   (30+150) = 180 % 60 == 0 , Count=1
   (20+100) = 120 % 60 == 0 , Count =2
   (20+40) = 60 % 60 ==0, Count =3

   (Same question as asked in round 2)

   I was not able to solve one coding question in 3rd round. Was expecting a positive result because the last 2 rounds were awesome \xe2\x80\xa6. but luck was not with me \xf0\x9f\x99\x82

   Upvote if you like :))

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