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Amazon Interview Experience for SDE-2 | 4 Years Experienced

- Difficulty Level : [Medium](#)
- Last Updated : 06 May, 2021

Virtual Interviews

I got a call from an Amazon recruiter via LinkedIn. She sent me the coding test link which I had to complete within a week. Once I completed the test, I got a call to schedule the interviews. All interviews were held on Amazon Chime as per schedule.

Overall process took 1 month to complete the test and interviews.

Following are the questions that were asked:

HackerRank Test (90 Minutes online test)

1. Shopping Options: We are given the costs of a list of pants, shirts, shoes, skirts. We have a certain amount of cash with us, we need to determine the total number of possible combinations which we can buy given that we must buy one and only one of each type.

Eg: pants=[3, 5, 7], shirts = [4, 7, 8], skirts = [5, 8], shoes = [3], budget = 25

So in the above e.g., apart from the combination [7, 8, 8, 3], all others are possible.

Hint: Since we have to buy all, we can combine the first two lists and the last two lists, so we would have cost lists like pants_shirts = [7, 12, 15] and

skirts_shoes = [8, 11], now we can just iterate over one list and binary search the remaining amount over the other list and add accordingly.

2. Storage Optimization: Amazon is experimenting with a flexible storage system for their warehouses. The storage unit consists of a shelving system that is one meter deep with removable vertical and horizontal separators. When all separators are installed each storage space is one cubic meter(1*1*1). Determine the volume of the largest space when a series of horizontal and vertical separators are removed.

n = 6; nh = [4] nv = [2]

Round 1(Problem Solving): 50 Minutes

First round was taken by a Software Engineer Manager who was residing in US. He introduced himself and then asked about some question related to Amazon leadership Principle.

Then asked one problem solving question. Given a list of words return a Map of words which can be formed by using other words which exist in the same list. He asked only one problem solving question. Most focus was on leadership Principle.

```
input = ["chappy", "crise", "cfor", "cset", "csunrise", "csu", "cnset", "csunset", "cmind", "chappymind", "cn", "crise", "chappysunrise"]
```

```
output = {
  "chappymind" : ["chappy", "cmind"],
  "csunrise" : ["csu", "cn", "crise"],
  "csunset" : ["csun", "cset", "cn", "csu", "crise"],
  "chappysunrise" : ["chappy", "csun", "crise", "chappy", "csu", "crise"]
}
```

```
\xe2\x80\x9cn\xe2\x80\x9d, \xe2\x80\x9crise\xe2\x80\x9d]]
}
```

Round 2(Problem Solving): 50 Minutes

Second round was taken by a SDE3 guy who was also in US. He introduced himself and then asked some questions related to Amazon leadership Principle.

He also asked me only one Problem Solving question.

Given an array of integers, return a new array such that each element at index i of the new array is the product of all the numbers in the original array except the one at i .

\xc2\xa0

For example, if our input was [1, 2, 3, 4, 5], the expected output would be [120, 60, 40, 30, 24]. If our input was [3, 2, 1], the expected output would be [2, 3, 6].

I solved it by multiplying the complete array then divide each index item to the complete sum.

Then he asked me not to use division. Was able to do in $O(n)$ time complexity

<https://www.geeksforgeeks.org/a-product-array-puzzle/>

Round 3(System Design): 1 hr 10 minutes

Third round was a system design round which is taken by Senior engineer manager.

He introduced himself and the team he was hiring for.\xc2\xa0 He asked some question related Amazon leaderShip principles. \xc2\xa0

He asked me to design a Distributed Scheduler which should work for all kinds of clients (Human, Machines {APIs}).\xc2\xa0

Main functionality he asked me to implement was to schedule a job and remind the client about the job at set time. \xc2\xa0

- Mostly High level design,\xc2\xa0
 - More questions on scalability, availability, fault tolerance, and resilience.
 - Ensure all jobs will work.\xc2\xa0
 - How system will work in peak time.
 - What should be the time frame in which user will notify?
- \xc2\xa0

Round 4(Bar-Raiser): 1 hr 25 minutes

Fourth round was the bar raiser round. In this round 2 interviewers were there. One of them was Senior Software Dev Manager and another was Technical Program Manager. (One of them was shadowing)

Started with the introduction.

He asked some question related Amazon leaderShip principles.

Design an Online Book Store.

Expectations :

1. Function Requirements (Explanation)
2. Non \xe2\x80\x93 Function Requirements (Explanation)
3. Domain Objects
4. High Level Components (Complete Services, Caches, Search, Message Broker, Data Base, Service Interactions)
5. Services Dependency with responsibility
6. Data Flows
7. APIs
8. Entity Relations
9. DB Schema

10. Scalability
11. Distribution and management

He asked me some more Amazon Leadership principle questions with STAR(Situation, Task, Action, Result) process.

Note:

In every round amazon leadership principle questions were asked. So don't forget to prepare for them too.

HR called before every interview and told about how this round goes and principles on which focus will be the most.

My Personal Notes

Add your personal notes here

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