

**Hi, friends!** I wanted to share my experience from the recent **DSA 4 Mock Interview**.

My interviewer was excellent, from Microsoft, with over 14 years of experience in the field. As usual, we began with my introduction and I walked him through my journey from earning my bachelor's degree in 2003 to my current job.

The interview was quite relaxed, and the interviewer mentioned that he would start with some basic programming questions to gauge how quickly I could come up with solutions. He asked me a straightforward

**Question: counting characters in a string.**

**Example:**

Input: "aaaabaaaba" Answer: "a8b2"

Input: "accbb" Answer: "a1c2b2"

I started by explaining the **brute force** approach, which involved using two arrays to count the frequency of characters. However, there was a challenge since we needed to print characters in lexicographical order. I suggested sorting the characters first and then iterating through them while maintaining a count and checking for character changes to print the results. The time complexity for this approach is  $O(N^2)$ , and the space complexity is  $O(1)$ .

Next, I explained an optimized solution with  $O(N)$  time complexity using a HashMap. I described the logic verbally before writing the optimized code, which looked like below:

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```
TC - O(n)
SC - O(n)

void printFrequency() {
    Map<Character, Integer> frequencyMap = new HashMap<>();

    // Count the frequency of characters in the input string
    for (char ch : input.toCharArray()) {
        frequencyMap.put(ch, frequencyMap.getOrDefault(ch, 0) + 1);
    }

    // Print the frequency of characters
    for (Map.Entry<Character, Integer> entry : frequencyMap.entrySet()) {
        System.out.println(entry.getKey() + ": " + entry.getValue());
    }
}
```

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To my surprise, the interviewer was satisfied with my explanation and didn't ask more questions.

He even offered to answer any questions I had.

I mentioned that I had prepared for more complex questions, especially on data structures like trees and graphs, but the interview was relatively straightforward.

Before concluding, I asked a career-related question. I inquired about transitioning from over 15 years of frontend experience to backend roles. He suggested starting with frontend react role with my exptrizeand gradually transitioning to backend within the same company.

**In summary**, I believe we often overthink interviews and fear difficult questions. We have to start atemting without any fear because this Mock goal is to identify our weaknesses rather than judge us.

From my experience till now, most questions asked are relatively simple. My advice to you all is to brush up on your basics, prepare a few key questions, and gain confidence through mock interviews.

**I followed my notes to prepare for this interview, and they contained everything I needed.**

**Best of luck to all of you in your upcoming interviews!**

If you need any help, please feel free to contact me.

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**Here is my notes for your refrence.**

[DSA-1.pdf](#)

[DSA-2.pdf](#)

[DSA-3.pdf](#)

[DSA-4.pdf](#)

[Revision Topics of Trees.pdf](#)