

Microsoft Internship Experiences

Name *

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Group Fly Round

It had 2 questions to be written on paper:

1. Given a string, find the largest palindromic string.
2. Given a $M \times N$ matrix, print the elements in spiral order. (From outside to inside)
e.g. if we have a 3×4 matrix with numbers inserted 1,2,3 .. 12 in row major order, then Output will be:

1 2 3 4 8 12 11 10 9 5 6 7

Interview - 1

Asked me to introduce myself.

I was selected for Data Scientist profile so I was asked if I had any projects in ML. I told them that I have just a bit of knowledge in ML and I applied just because I found it interesting.

Then they asked a programming question:

Given an integer array of digits, find the next greater number.

E.g. if the number is 1234, output should be 1243

I tried 3 times but failed and they gave an example each time where my approach will fail.

Finally my fourth attempt was correct and they asked me to write its code.

They were basically focusing on the thought process.

Interview - 2

It was about OS. It was different for everyone, for some it was programming, one was asked maths questions.

My first question was to implement a status bar for copy in linux.

I.e. while the copy is going on, print the status bar of progress and update it every second.

I created a thread before copy starts and it calculates the progress and prints accordingly.

Second question was about implementing malloc.

Given a 1MB memory, implement malloc to allocate and deallocate memory to processes.

My first approach was using free list but it failed.

My second attempt was correct. Implemented it using a 'allocated list'

Each list's node represents the start and end address allocated to a process. I was then asked to write code for this.

Interview - 3

Asked me about my projects.

Everyone had same projects i.e. OS assignments.

I was able to convince her that my projects were better than others.

One of the project was 'Terminal based file explorer in linux'

She asked me to implement search functionality in a directory using regex.

I suggested making DFA for the regular expression.

Other approach was using KMP, she asked me to give time complexity of both.

Next question was about programming.

Given a NxN matrix, find the number of paths from 0,0 to n-1,n-1

First I solved it without using DP so she asked me to optimize it.

Using DP was the answer.

I was asked to write code for both the approaches.

Interview - 4

Remarks

The interviewers were friendly and gave hints if I was wrong.

In your opinion, how one should prepare for Microsoft?

Programming and OS knowlege is must. Try to practice writing programs on paper.

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