

## Microsoft Interview Experience | Set 130 (Internship)

- Difficulty Level :[Easy](#)
- Last Updated :[20 Dec, 2018](#)

Microsoft Internship Interview Experience July 2017:

First round was a 75 minutes online round in which 3 simple questions were asked.

1. First question was [given two numbers n,m find a number closest to n and divisible by m.](#)
2. Second question was [given a string consisting of only 0,1,A,B,C where A=AND B=OR and C=XOR. Calculate the value of the string moving from left to right assuming no order of precedence.](#)
3. Third question: You are [given a binary tree of integers and an \xe2\x80\x99sum\xe2\x80\x99. Return the length of the shortest path beginning at root and ending at a leaf node such that the sum of numbers along that path is equal to \xe2\x80\x98sum\xe2\x80\x99.](#)

### Fly round:

Second round was a written test in which 2 questions were asked.

- [First question was sentence reversal](#)
- second question was [maximum product sub array.](#)

Write neat codes and besides optimizing time complexity, take care to optimize space complexity as well(if possible of course). Use good variable names.

MS interview experience:

### Round 1:

1. I was asked to [populate the next right pointer in a binary tree.](#) First I used queues but was asked to further optimize it such that it consumes  $O(1)$  extra space. Was asked to write the codes for both of them.

### Round 2:

1. [Difference between a thread and a process?](#) \xe2\x80\xa6 similar kinds of other OS questions.
2. What is abstraction, encapsulation, inheritance etc..
3. Was asked to explain [LRU algorithm.](#)
4. I was asked to code the [edit-distance problem](#) (geeksforgeeks standard problem).
5. He began with designing an application which will track and plot the other user\xe2\x80\x99s location and gave me various scenarios like for example how I will handle memory overflow if sender went offline. This went on for more than 10-15 minutes.

### Round 3:

1. I was asked to [implement LRU cache.](#)
2. Further, on how I would implement a hash within one data structure (keys and values are strings), given three operations `insert()`, `get1()` and `get2(string s)`, where `get1()` returns the least

recently used string and `get2(s)` returns the string mapped to `s` (the Interviewer had insisted that I reduce `get(1)` to `o(1)` as it was a cache). I somehow managed to reduce the complexity to  $O(\log(n))$ ,  $O(1)$  and  $O(\log(n))$  respectively and he appeared to be convinced.

3. I was asked a lot about my project in Deep learning (Machine Comprehension). Further he asked me what kind of projects I would like to work on during my internship and if I had any questions for him.

This article is contributed by **Maneeshita Sharma**. If you like GeeksforGeeks and would like to contribute, you can also write an article using [contribute.geeksforgeeks.org](https://contribute.geeksforgeeks.org) or mail your article to [contribute@geeksforgeeks.org](mailto:contribute@geeksforgeeks.org). See your article appearing on the GeeksforGeeks main page and help other Geeks.

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