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## Microsoft Interview Experience for Software Engineer | On-Campus 2019

- Difficulty Level : [Medium](#)
- Last Updated : 05 Dec, 2019

It was an on-campus recruitment.  
There were five rounds

### Round 1: Online Assessment on 5/11/19

There were three coding questions.

1. It was a question where ships are sailing in layers.
  - Each ship has a value  $n$ .
  - Each ship is followed by  $(n * n + 1) \% M$  distinct ships whose value is 0 to  $(n * n + 1) \% M$ .
  - Inputs given were  $L$  no. of layer and  $M$

Find the total number of ships in all the layers modulo  $M$ .

2. Need to return the maximum distance between any two coordinates from given  $n$  coordinates. use Euclidean's method to calculate distances
3. Minimum swaps to make a string palindrome

I could solve all three questions.

### Round 2: Group Fly on 30/11/19

In this round, 6-8 students were assigned to a panel member, and we were given two questions. We need to discuss our approach and then write the code on paper.

1. Find the leftmost right cousin of a given binary tree  
Eg:

```
\xc2\xa0A\r\n      /  \\\r\n     B    C\r\n        /  \ /  \\\r\n       D   E F  G\r\n
```

So the left most right cousin of  $D$  is  $F$ ,  $E$  is  $F$ ,  $F$  is NULL,  $G$  is NULL

2. Given a list of words return those words which contain other words as its prefix.  
Eg: `["after", "afterwords", "before", "beforewords"]`  
Output: `["afterwords", "beforewords"]`

I could solve both the code and wrote it on paper cleanly with proper comments.

### Next three rounds of F2F interview happened on 1/12/19

Total 3 round took 2.5 hrs

#### Round 3: F2F interview

The interviewer was excellent, helped me to calm down. Then asked me the [intersection of two link list](#) question. I explained two approaches and then wrote the code on paper.

#### Round 4: F2F interview

The interviewer asked me two questions:

1. [Snake and ladder](#)
2. Given a list of edges  $E$  and list of vertex pairs  $V$ . Check if we can create a graph using edges in  $E$  such that no pair of vertices in  $V$  are connected. Consider both direct and indirect connection.

I gave two-three approaches for both questions. The interviewer asked me to write code of 2nd question, when I wrote half of the code, he said time is up.

#### Round 3: F2F interview

Asked me one question: [merge two sorted lists](#)

There can be a duplicate, but the final list should be distinct. i.e. each duplicate should be taken once.

The interviewer asked me to provide at least three approaches. Asked me to write code for the two approaches out of three I could answer. I gave a recursive approach, an approach where we take an extra head pointer and another approach where I was inserting the node of the 1st link list in 2nd one. I coded the first two approaches.

After waiting for 5 min, the HR informed me that they are giving me the offer.

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