

Microsoft Summer Internship 2019 | Campus Recruitment

- Difficulty Level : [Hard](#)
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This article is regarding the Microsoft Summer Internship 2019 recruitment process that took place at my college campus VIT University, Vellore.

Round 1: Group Fly Round

The first round was group fly round where we were asked to write codes (pen & paper) in any preferable language for the given 2 questions:

1. **Immediately largest and immediately smallest numbers with same number of 1s in binary representation:** <https://www.geeksforgeeks.org/closest-next-smaller-greater-numbers-number-set-bits/>
2. **Intersection of 3 arrays:** <https://www.geeksforgeeks.org/find-common-elements-three-sorted-arrays/>

The given link for second question refers to use of sorted arrays but we could always sort the input arrays as we only had to print the repeating elements among all 3 arrays.

Apart from codes they also expected us to mention the time and space complexities of each program as well as we had to write 3-4 sample test cases alongside the code which could help them evaluate it in better way. In all, we were given around 45-50 minutes for the group fly round.

Round 2: Technical Round 1

The round went on for about 1 hr to 1.25 hrs for me. I was asked to code for the logic of a car-wash management software based on a number of constraints like:

- Using a priority queue for keeping the booking sorted with respect to special preference to certain customers and time of booking.
- Customers coming for every 11th service to be given a free wash.
- Customers who become regular are to be given higher priority. The regularity can be based on 3 visits in the last month.

The choice of language was again left onto me. I chose Python to complete the task. The main aim was to keep discussing with the interviewer regarding what is going on in my mind and get suggestions regarding any improvement that could be done.

Apart from this, I was asked questions about:

1. Database Management Systems:
 - What is the use of normalization in the database management?
 - The basic idea is to reduce the redundancy in the database and improve its scalability. To which I was questioned regarding: Why do we prefer normalization while storage media is available at cheap cost? One could argue that normalization also keeps data consistent without producing any anomalies and gives an easy understanding of the entire database.
2. Core C Programming:
 - What are placeholders in C?

- Can a C program run without including `<cstdlib>` library?

Round 3: Technical Round

In this round the complete focus was on Data Structures and Algorithms. I was asked to write:

1. Various types of binary tree data structure. <https://www.geeksforgeeks.org/binary-tree-set-3-types-of-binary-tree/>
2. Code for pre-order traversal of a given tree. <https://www.geeksforgeeks.org/tree-traversals-inorder-preorder-and-postorder/>
3. What are hash tables and how to handle the collisions?
<https://www.geeksforgeeks.org/hashing-set-1-introduction/>

Apart from DSA, I was asked questions regarding Networks and Communications like:

1. What is DNS?
2. On entering a URL in a browser, explain the detailed procedure in which the request is handled by the browser and the result is obtained for the given search query.

The interview was probably 35-40 minutes long.

Round 4: Technical HR Round

The last round was conducted by the HR wherein he focused mainly on the projects that I had done. I explained the basic idea behind every project that I did in first 2 years of college. He liked one or more projects because of the kind of innovation that I brought in to solve the problem in hand.

Apart from projects, I was asked about my interests and other open-ended questions to allow them to know more about me. The round was about 25-30 minutes in stretch.

I was very happy to be one of the 5 students who got selected for the upcoming summer internships (2019) at Microsoft.

My tips: Answer what you know. I would advice to accept it if you do not know the answer rather than bluffing a random one. Mainly they focus on skills mentioned in your Resume so keep it simple and direct.

My Personal Notes

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