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# Microsoft interview Experience | Set 49 (For Internship)

- Difficulty Level :\nMedium
- Last Updated :\n10 Jan, 2019

Recently Microsoft visited our campus for SDE intern. The process took over 4 months.

**Round 1 (Online MCQ\xe2\x80\x99s)**
time- 30 minutes.

This was conducted on CoCubes.com ,there were around 25 questions of varying level of difficulty. Topics: C , C++ , Aptitude.

Around 60 students out of 150 were shortlisted for the next round.

**Round 2 ( Online Coding Round)**
time \xe2\x80\x93 90 minutes

    This was conducted on the same day. There were two questions of data structure.

- Write a function to check whether the parenthesis ( \xe2\x80\x9c( )\xe2\x80\x9d, \xe2\x80\x9c{ }\xe2\x80\x9d , \xe2\x80\x9c[ ]\xe2\x80\x9d ) in a given string are balanced or not.
GeeksforGeeks Link
- Write a recursive function to make a list from two given Linked lists, that contain intersection of the elements present in the given lists inplace.

37 students were shortlisted for the next round.

**Round 3 (Telephonic interview)**

    time- 33 minutes

- I was asked to introduce myself.
- Then there were couple of questions on the project i was working on. As my project was in java as the front end and oracle as the back end, i was asked few questions on multithreading and sql.
- I was then asked to explain the logic and the code to traverse a binary tree level by level but in spiral form.
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- Logic and the code for the lowest common ancestor in a binary search tree.
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- Complexity of both the above codes and why such complexities.
- i was asked questions on OS-

  - Differentiate between mutex and semafore variables?
  - What does a thread and a process share in common?
  - What is a deadlock ?

- There were few questions on C++.

  - Polymorphism and runtime polymorphism.
  - What is a virtual destructor?

I was asked if i had any queries and i asked about the work that interns will get to do in microsoft and the interview ended.

Only 9 were shortlisted for the further interviews. I was lucky enough to be one of them.
We were called to Microsoft India Development Center, Hyderabad.

**Round 4 (Technical)**
Time- 35 mins

    The interview started with my introduction. Then there was a long discussion on my project. He told me the flaws in my project and asked me to tell how would i deal with them.

- Given two arrays of integers( in random order), how would u determine the rank of an element.

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For ex: let the two arrays be    \r\n\xc2\xa0\xc2\xa0\xc2\xa0\xc2\xa0\xc2\xa046 32 16 73 57 2 and\r\n\xc2\xa0\xc2\xa0\x
```

i don\xe2\x80\x99t remember the exact question but it was similar to this. Fairly simple. I suggested some approaches and i was expected to come out with the best approach.
then i was asked to code my solution and design the test cases for the same.

- I was asked about my favorite subject.
- Write and explain the code to connect nodes at same level in a binary tree.

Soon after the fourth round some of us were called for the next round.

**Round 5 (Technical) (30 mins)**

1. Given a Y- linked list. Find the node at the intersection point.
2. Given a string of containing lower case letters and upper case characters. Find the number of occurrences of each character.
   The question was further modified to include the special characters as well. I was asked to design the test cases for the same.
3. Remove duplicate characters from a given string keeping only the first occurrences (i.e order should not change). For ex- if the input is \xe2\x80\x98bananas\xe2\x80\x99 the output will be \xe2\x80\x98bans\xe2\x80\x99.
   https://www.geeksforgeeks.org/remove-all-duplicates-from-the-input-string/ (second method).

    5 of us were called for the next round.

**Round 6 (HR ) (30 mins)**

    There were questions like-

- Brief me about your academic history.

- The project you are currently working on and why did you choose this?
- What improvements can you do in your project? Are you working under a professor or just out of interest?
- How would your peers describe you?
- How would your professors describe you and what are your weaknesses according to them?
- How are you trying to improve?
- What keeps you motivated?
- What are your Short term and Long term goals?
- Why Microsoft?

There were few other questions which i can\xe2\x80\x99t recall now :p
It was the last round. It went pretty well.

The experience was awesome and i found that the people over there are very humble and i really liked their helping attitude.

**Some interview tips-**

1. Stay calm, CONFIDENT and keep yourself motivated.
2. Be honest.
3. Try to keep your approach clean and don\xe2\x80\x99t mess up things in your\xe2\x80\x99s as well as interviewer\xe2\x80\x99s mind.
4. Don\xe2\x80\x99t think about the results, just enjoy the interview process with a free mind \xf0\x9f\x98\x80
5. Focus on building your concepts strong.

A big thanks to GeeksforGeeks for providing such a brilliant platform for interview preparation. Keep up the good work \xf0\x9f\x99\x82

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