Ciena Interview Experience (C/C++ Profile)

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It was a three-round process with one online assessment and two technical rounds.

ROUND 1 - Online Assessment (60 mins)

There were 2 different assessments set up according to the profile for which the students had applied (One for the C/C++ profile and the other for the Java profile).

- Java Profile assessment consisted of 2 programming questions.
- C/C++ Profile assessment had various sets of assessments, different for each candidate.

I got 3 coding questions related to strings in C/C++(level of difficulty:easy to moderate).

Q1. Given a string containing only uppercase characters, return how many times you can remove letters (in any order) from the string and make the string “BANANA” from it.

Example:

Input: NAABXXAN Output: 1

Input: NAANAAXNABABXNNBZ Output: 2

Input: AAXAYZB Output: 0

Q2. Given a string S return alphabetically smallest string that can be obtained by removing exactly one letter from S.

Example:

Input : S=”hot” Output: “ho”(because it is alphabetically smaller than “ht” and “ot”).

Q3. Given string S count the number of different letters that appear in both uppercase and lowercase where all lowercase occurrences of the given letter appear before any uppercase occurrences.

Example:

Input: S=”aaAbcCABBc” Output:2 (a and b are lowercase letters coming before uppercase)

Input: S=”xyzXYZabcABC” Output:6

Input: S=”ABCab” Output:0

Some students got a single section with 45-50 MCQ questions around Aptitude and Reasoning, C error correction, and C Output questions (Output questions were tricky, whereas aptitude and fundamentals were relatively easy).

43 students were selected for the next round.

ROUND 2 - Technical Interview 1 [1 hr]

The interview started with basic greetings and my introduction, then he asked me about my projects. The discussion solely focused on the techstack that I used in my projects. I had 2 major projects both were based on web technologies (Html,CSS,javascript,MERN .etc) .I took 15 minutes to explain the overall flow of my project on pen and paper(what all modules are there in my project and functionality of each module so that the interviewer can get a gist of both the projects).Based on my explanation he further asked me questions like what kind of indexing i have applied on my database, what is REST api, what is cron job etc.

The project discussion went on for 30 minutes .

Then he asked me about cs fundamentals like

Q1.what is OOPs.

Q2.Describe each pillar of OOPs using example.

Q3.Difference between compile time and runtime polymorphism.

Q4. What all data structures u know. Describe each briefly(advantages and disadvantages) and their application.

Q5.Design a system having account categorized as open draft account and savings account.The withdrawal and deposit for the saving accounts is same as done for general account but for open draft account when you have to withdraw you can always withdraw the amount you have plus mentioned threshold of bank.

(example: you have 5000 in your account and threshold is 2000 so if you have open draft account you can withdraw 7000 but if you have savings account you can withdraw only 5000 and not more than it.) Also we need to calculate interest on deposit for both accounts.

Do the same above question using class concept and inheritance(using abstract fn too) and then he asked me to make the object of derived class and using it I should call base class deposit function.

Tips for this Question(Not told by interviewer)

Remember deposit function in both saving account and open draft would be the same so don't make it abstract.

In the opendraft account (in withdraw function) you can put a check that the amount you have in your account cannot be less than the threshold. So this ques was designing the bank system first and then doing the same using classes.

Q6. Design a todo list with features like

- Add task(task is of type string)
- Remove the task
- Display the task
- Quit

Interviewer asked to use linkedlist for implementing the above question(Make menu driven program).At last I asked about the feedback of my interview .So he said it was pretty good rest you will know soon 🙂

ROUND 3 - Technical Interview 2 [40 mins]

The interviewer asked me to introduce myself. After the introduction, he asked me to explain my latest project.So again the discussion went on for about 15 minutes.

Then he gave me few coding questions to be solved in the given time complexities:

Q1.Find missing number in the array in O(n).

Q2.Find duplicate number in the array in O(n).

Q3.Find Cycle in linked list. (If using slow-fast pointer approach then explain how are you making sure that if slow and fast point to the same node then there is a cycle..(explain its mathematics if possible))

Q4.Delete a node for which ptr to that node is given in O(1) time.

Q5.Remove middle node in the linkedlist.

Q6.Add 2 Numbers in linkedlist(If you can't make a new linkedlist to store your answer then in that case in which linkedlist you will store your answer.)

Take 2 cases if list size is same and another in which list size differs.

For every question I was supposed to write the code and dry run for atleast 2 inputs and explain it to the interviewer.

He was done with his questions and asked me if I had any, we then had a small talk regarding the work culture of Ciena and I also asked him how he handled tight deadlines and a few other questions.He answered all my questions precisely. Then he concluded the interview.

Verdict: Selected for Internship + FTE offer

From both profiles combined 14 students were given an Internship + FTE offer.

Tips:

- Study core computer science topics, such as Operating Systems and Computer Networks.
- Do programming questions for static(array, strings) as well as dynamic (linked lists,trees).
- Don’t lie in your resume.
- Be confident and calm in the interview even if you encounter some new question that you have never heard before.In such cases ask more and more questions from the interviewer you will definitely get some clue.
- Take time before answering anything. Understand the problem, Talk to the interviewer about any constraints or additional things, and Then communicate the answer properly.
- For projects try explaining them using pen and paper and by drawing the flowchart explaining different modules and their functionality. This gives more clarity to the interviewer.

ALL THE BEST!