Hi all, I am Kashyap sharing my interview experience with Amazon in campus.

Online Round – 250 candidates

This round had 20 MCQs (Computer Science Fundamentals + Simple aptitude questions) and 2 coding questions.

1) Given an array of integers, find the maximum product which can be formed by three numbers
2) Given an array of integers, find the length of the longest consecutive sub array which forms an AP.

Elimination Round – 27 candidates

This was a group coding round. This round had two coding questions

1) Print a matrix spirally – use 4 for loops inside a while
2) Given a binary tree, connect all the nodes at the same level. Each node will have a next pointer; you have to make it point to the next node to its right in the same level. If there is no such node, make it point to null – level order traversal, using some technique to keep track of the last node in a level

Face to face Interview – Round 1

He first asked me what I know about Amazon and why I want to work there. He asked me why I didn't get a Pre-Placement Offer from Microsoft. I said my project went well, mentor and manager were impressed, and interviews also went well, so I don't know why.

He then asked me what programming language I use. I said C++. He asked how I would rate my expertise in C++ on a scale of 10. I said 8 / 10. I never thought about the object oriented concepts when saying that. I was just thinking in terms of STL and algorithmic coding in that language. He asked me when I would make a destructor virtual, what virtual functions are, what runtime polymorphism is. I told him I studied all this two years back, and just gave him some answers, which I think weren't so good.

He asked me what data structure I would use to store Employee Name and Age of an organization with name being the primary key. I said that I would use a trie. He asked me why. I just explained how efficient it is in storing a dictionary of strings.

He then said – "Ok, let's write some code now!"

Given a binary tree and an integer x, return whether the binary tree has a path from root to a leaf whose values sum to x. I wrote code. He was satisfied.

He then asked me to return the path in a linked list. Wrote code, he was satisfied.

He then asked me to give test cases for testing this program. I was giving some cases, and when I said I will give a tree which has multiple paths which sum to the value, he asked me what my code would do in

that case. I said it will return the first found path. He asked me what modifications I would make to return all paths. I said I will return an array of linked lists. He was satisfied. He didn't ask me to code it.

Face to face interview – Round 2

He asked me how my previous interview went. I said I could have done better. He asked why. I said I don't know, it's just a feeling.

He asked me what the biggest achievement in my life is. I said becoming near yellow on TopCoder and getting to intern in Microsoft. He also asked me why I didn't get the PPO. I gave the same reply.

He started of the interview. He gave me two unsorted arrays of numbers and asked me to find the intersection. I said I will sort the array and then do a linear scan to find the intersection in O(NlogN). He wanted me to tell some more ways. I said it can be done in linear time if extra space of O(max - min) is used using a count array. He asked me what I would do if I can't use the count array. I said I will use a binary search tree to find the intersection. He seemed satisfied.

The next problem was to implement a getMax() function for a stack in O(1). I used O(N) space for it. I used a linked list to store what the max is at any point of time. I told him that I can use a struct of max and a number to optimize the following case: a stack into which 1000, 999, 998 … 1 are pushed. Instead of pushing 1000 thousand times into the linked list, a single node with maxValue = 1000 and n = 1000 can be used I said. He didn't ask for this optimization, I myself told him that such cases can be optimized like this.

After I answered this, he asked me to implement getMax() for queue in O(1). I tried a lot and then told him that I will have to maintain a sorted order of the queue elements. I told him I am not able to think of anything better. So my solution was logarithmic. He then told me that he would ask this question to the next guy and see what answer he gives. (After his interview, I asked him whether he solved it. He also said that he couldn't. Then later when we had gone for dinner with the Amazon recruiters, I asked him what the solution is. He said that it is not possible to do in O(1). He had trolled me :P)

He then asked my location preference – Chennai / Bangalore / Hyderabad. I said Chennai.

Face to face interview – Round 3

She told me that this round won't last too long. It is a problem solving round she said. She just asked me what I know about Amazon.

She started with the problems. Given an array in which consecutive elements differ by 1, i.e. a[i] – a[i + 1] = 1 or -1, and an element x, find the element in the array. Start with index i = 0. At each stage, check whether the current element is x, else jump by abs(x – a[i]). Repeat it until you find the element / till the array index goes out of bounds.

Given an array, find the Next Greatest Element to the right for each element. This is a famous problem which can be solved with a stack.

Given an expression, remove unnecessary parenthesis. For example if (((a + b)) * c) is given make it (a + b) * c, as it evaluates in the same way without those parenthesis also. This can be solved by converting infix to postfix and back to infix. She then wanted me to explain how to convert the infix to postfix and postfix to infix.