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# Microsoft Interview Experience

- Difficulty Level :\nMedium
- Last Updated :\n19 Aug, 2021

**Round 0(Codility Round): \xc2\xa0**

1. Given buckets of size 1..N, find the minimum number of buckets required to fill K liters of water.
2. Given a string, find the minimum number of substrings that it needs to be split so that there won\xe2\x80\x99t be any duplicate character in each of the substrings.

**Round 1:**

1. Some questions on current work.
2. Find K most frequently used elements in an array(did it using hashmap + maxHeap, \xc2\xa0asked if there is any data structure, then he suggested treeMap would do that)
3. Sort array with only 0s,1s,2s(explained counter approach, asked to do it without any extra space, told some approach similar to quicksort using 2 partitions) https://practice.geeksforgeeks.org/problems/sort-an-array-of-0s-1s-and-2s4231/1
4. Count number of islands in a 2d matrix. (told approach, he asked if its some traversal. Then he asked if it\xe2\x80\x99s a bfs or dfs) https://practice.geeksforgeeks.org/problems/find-the-number-of-islands/1\xc2\xa0

**Round 2:**

1. Expression evaluation 2a[3b] = 2a [bbb] -> abbb abbb
2. Suggest words with a given prefix.(explained Trie based approach)
3. Bfs vs dfs \xc2\xa0

**Round 3:**

1. Design an intelligent elevator system for a very secure building with multiple constraints like max_capacity for floor & lift, it should be easily extendable if a new lift or new lobby or new floor gets added. (classes created: lift, liftlobby, floor, floormonitor, user, building. Wrote it in a way that it\xe2\x80\x99ll be easy to scale when new lift/building or new lift lobby or new floor comes)

**Round 4(Techno \xe2\x80\x93 Managerial):**

1. How did previous rounds go? (Explained where I went wrong in previous rounds)
2. He gave an explanation about MS & Azure team\xe2\x80\x99s work culture.
3. How do you make sure that your service won\xe2\x80\x99t have any issues after sending it live?
4. How will you test your features?
5. Design a system that blocks unsafe websites from browsing. High level, network protocol, low-level class design for Server. he also asked how about synchronization of deleteword & checkisSafe word. \xc2\xa0 \xc2\xa0

**Result:** Offer rolledout.

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