**1st Round Programming Test :**

- All Question are mandatory
- No need to compile code logic must be correct
- Inbuilt library not allowed
- Time 1hrs
- 5 Questions

1. **You are given an array where every element appears twice except for one unique element that appears only once. Your task is to find and return this non-repeating element.**
   Input : arr = [2, 3, 5, 3, 2, 5, 7]
   Output : 7

   Input : arr = [1, 1, 4, 2, 2]
   Output : 4

2. **Given an unsorted array of integers nums, return the length of the longest consecutive elements sequence.**

   Example 1:

   Input: nums = [100,4,200,1,3,2]

   Output: 4

   Explanation: The longest consecutive elements sequence is [1, 2, 3, 4]. Therefore its length is 4.

   Example 2:

   Input: nums = [0,3,7,2,5,8,4,6,0,1]

   Output: 9

   Example 3:

   Input: nums = [1,0,1,2]

   Output: 3

3. **Given two non-negative integers num1 and num2 represented as strings, return the product of num1 and num2, also represented as a string.**

   **Note: You must not use any built-in BigInteger library or convert the inputs to integer directly.**

   Example 1:

Input: num1 = "2", num2 = "3"

Output: "6"

Example 2:

Input: num1 = "123", num2 = "456"

Output: "56088"

## 4. valid String / Paranthisis

You have given a string containing (,), * open bracket must closed by closed bracket and

'*' can be used as (, ), or empty String

Ex: Input : str="(*))" output : true

Ex Input : str="((*))" output : true

Ex : Input str="((*)" output : true

Ex Input str = "(((*)" output : false

## 5. Given two strings, string1 and string2, determine if string1 follows the same pattern as string2. Each unique character in string1 maps to a unique word in string2.

string1 = "abba"

string2 = "dog cat cat dog"

output : true

string1 = "abba"

string2 = "dog cat cat fish"

output : false

**1st-level Technical Interview Round :**

-you have to explain your logic

1.  You have given a character array of credit number and your task is to chang middle four character into #
    Constraints : array length is always even and greater or equal to 6
    Have to implement the logic with O(1) Time Complexity;

    Ex1 :
    Input [1 2 3 4 5 6]
    Output : [1 # # # # 6]

    Input : [1 2 3 4 5 6 7 8 9 0]
    Output : [1 2 3 # # # # 8 9 0]
2.  Given a string s consisting of small English letters, find and return the first instance of a non-repeating character in it. If there is no such character, return "_".

Example

- For s = "abacabad", the output should be
  firstNonRepeatingCharacter(s) = "c".

- There are 2 non-repeating characters in the string: "c" and "d". Return c since it appears in the string first.

- For s = "abacabaabacaba", the output should be
  firstNonRepeatingCharacter(s) = "_".

- There are no characters in this string that do not repeat.


**2nd-Level Technical Interview Round :**

1. Puzzle :
   You have given a bag containing 200 Balls
   99% are Red Balls and 1% White Balls
   You have to remove red balls in such manner the white balls are become a 2%
   How many red Balls required to Remove?

2. You are given a string in PascalCase format. Your task is to convert it into kebab-case while keeping the word "raja" unchanged.
   Rules:
   Convert all words to lowercase.
   If the word "RAJA" appears in the string, it should remain exactly as "raja"
   Input : str = "HelloWorldKing"
   Output : hello-world-king

   Input : Str = "ConvertThisStringRAJAPlease"
   OutPut : convert-this-string-raja-please

   Input : Str = "ConvertThisStringOTHERPlease"
   OutPut : convert-this-string-o-t-h-e-r-please

3. Project Related Discussion


**3rd-level Technical Interview Round :**


Interview is divided into two part

1) Programming :

 Find Scond maximum difference in array in O(n) Time Complexity

 second question is

Write a function to shuffle the elements of an array given the new positions of the array elements.

The function accepts 2 parameters: (1) the array itself, and (2) another array containing the new positions of the elements.

The shuffling should be done "in place". The second array which contains the new positions can be modified.

This should be done in a single loop over the array without using any extra space.

Example 1:

Input: [2, 4, 6, 8, 10], [2, 4, 1, 0, 3]

Output: [8, 6, 2, 10, 4]

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2) Manager Level Questions

Decussion on resume technology mention project

which problem faces during project

where you practicing for problem solving skills and

some decision based question.