**Daily challenge Leetcode**

**1.15 feb :**

Problem : **Single Number**

**Statement :**

Given a **non-empty** array of integers nums, every element appears twice except for one. Find that single one. You must implement a solution with a linear runtime complexity and use only constant extra space.

**Solution :**

* Brute force : O(n^2) : for every index find its duplicate if not you have found you single number
* Sort : TC O(nlogn)

SC : O(1)

First sort , then check the number as it is sure every ele is prresrent 2 times

* USE Hashmap : TC O(n) SC O(n)
* Optimized : TC O(n) SC O(1), Use the xor operator on the for loop .

**2.17 feb :**

**Combination sum :**

Given an array of **distinct** integers candidates and a target integer target, return *a list of all****unique combinations****of*candidates*where the chosen numbers sum to*target*.* You may return the combinations in **any order**.

The **same** number may be chosen from candidates an **unlimited number of times**. Two combinations are unique if the frequency of at least one of the chosen numbers is different.

It is **guaranteed** that the number of unique combinations that sum up to target is less than 150 combinations for the given input.

Solution :

Recursive approach :

Add the list to the main list of list when the target become 0 ,

If target become negative return

**3.18 feb :**

**Remove K digits (402) :**

Given string num representing a non-negative integer num, and an integer k, return the smallest possible integer after removing k digits from num.

**Input:** num = "1432219", k = 3

**Output:** "1219"

**Explanation:** Remove the three digits 4, 3, and 2 to form the new number 1219 which is the smallest.

Solution :

Step 1 : Make a stack, is the stack is empty then push the current number

And i++

If not if stack is not empty and the upper ele is greater than the current ele

Keep Removing that big ele from stack and lastly add the currr ele

Step 2: Edge cases are handled by again by running the loop, while k>0 and pop the stack until this condition is not satisfied.

Now we have to reverse the stack and handled those case when we have zero at the beginning for that create a string builder and adjust that thing also by using the

Sb.deleteCharAt(0);

Code is on the leetcode account .