DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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EXPERIMENT -1.4

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BRANCH- BE- CSE SECTION- DM 605 B

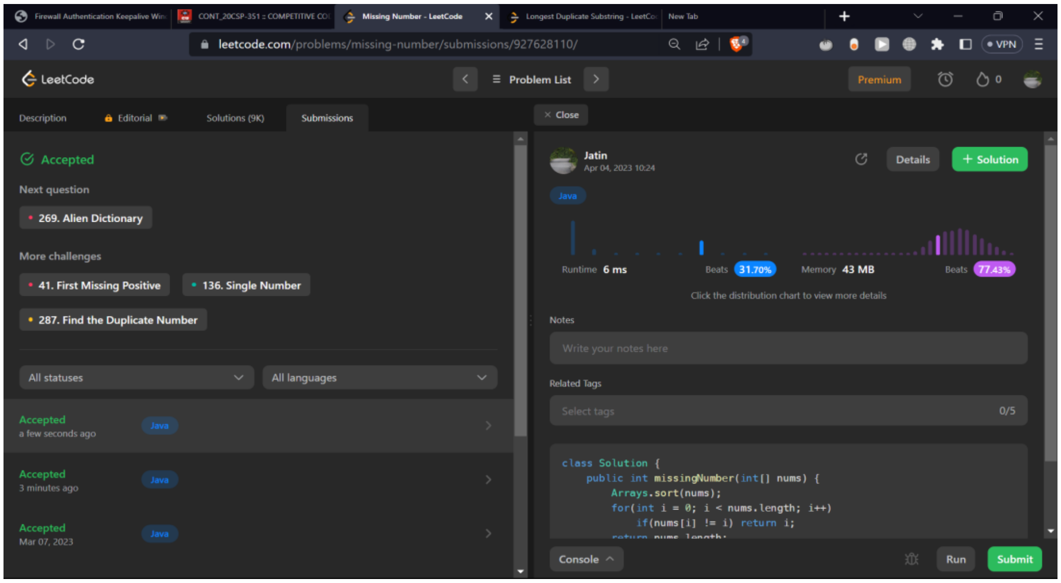
SEMESTER- 6th DATE-26 /03/2023

SUBJECT- CC Lab- 2 SUBJECT CODE- 20CSP-351

Q1. Missing Number

CODE:
```
class Solution {
    public int missingNumber(int[] nums) {
        Arrays.sort(nums);
        for(int i = 0; i < nums.length; i++)
            if(nums[i] != i) return i;
        return nums.length;
    }
}
```

Output:


Firewall Authentication Keepalive Win
CONT_20CSP-351 :: COMPETITIVE COI
Missing Number - LeetCode
Longest Duplicate Substring - LeetCo
New Tab
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LeetCode
Problem List
Premium
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Solutions (9K)
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Close
Details
+ Solution
Console
Run
Submit

leetcode.com/problems/missing-number/submissions/927628110/

Accepted

Next question

- 269. Alien Dictionary

More challenges

- 41. First Missing Positive
- 136. Single Number
- 287. Find the Duplicate Number

All statuses | All languages

Accepted a few seconds ago Java

Accepted 3 minutes ago Java

Accepted Mar 07, 2023 Java

Jatin
Apr 04, 2023 10:24

Java

Runtime 6 ms Beats 31.70% Memory 43 MB Beats 77.43%

Click the distribution chart to view more details

Notes

Write your notes here

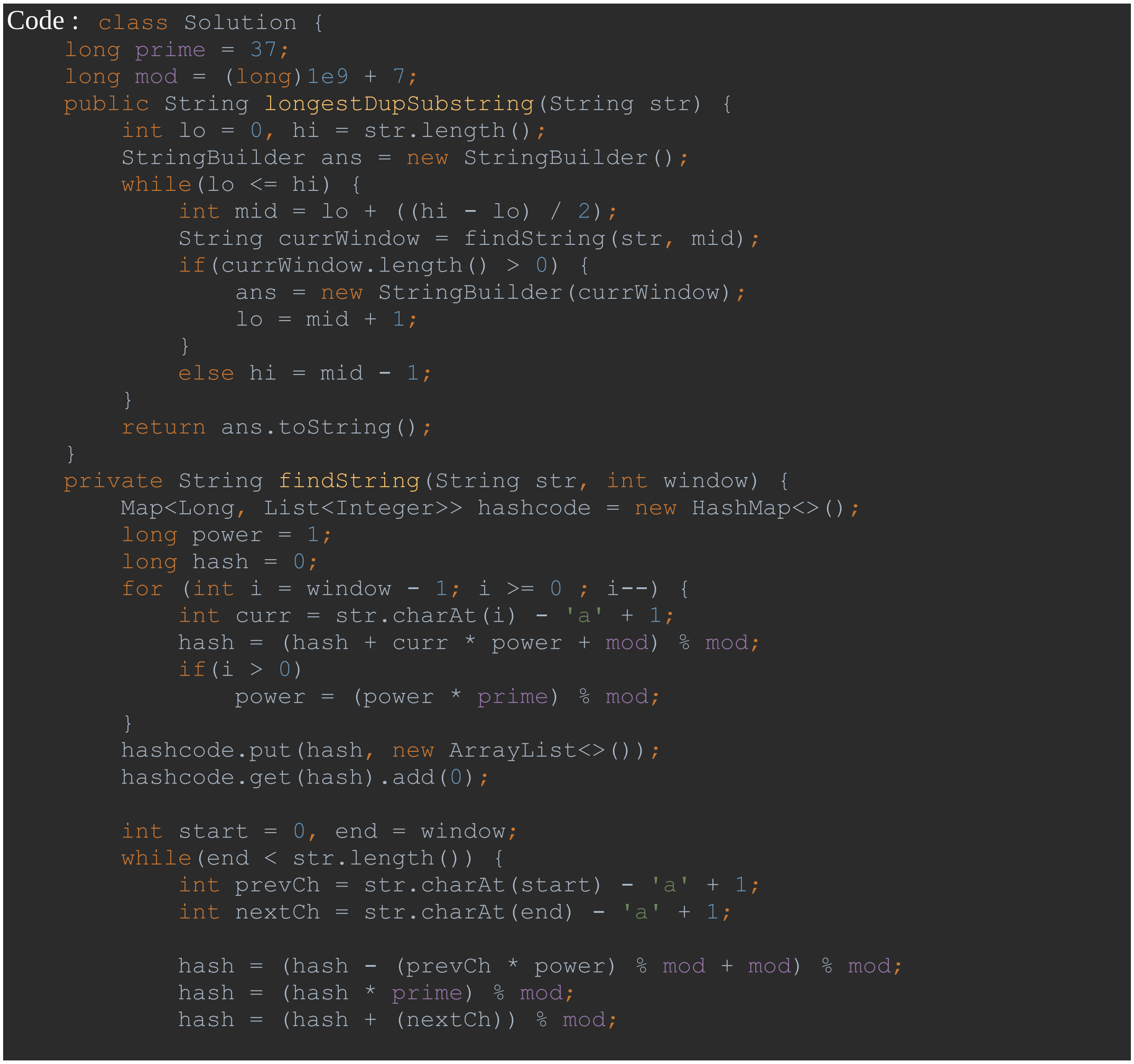
Related Tags

Select tags 0/5

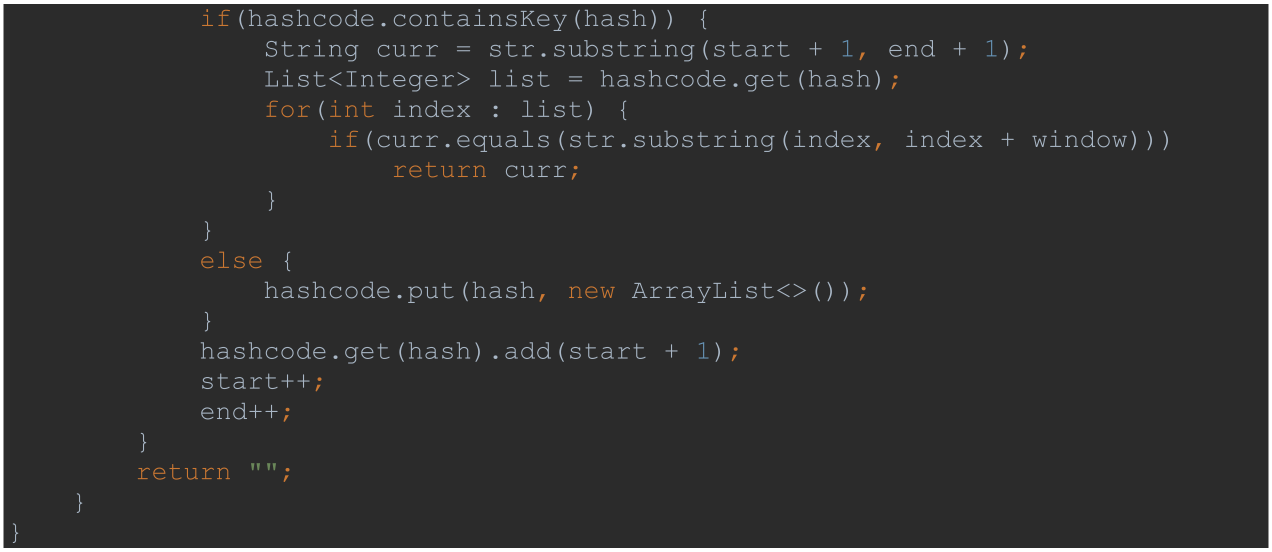
```
class Solution {
    public int missingNumber(int[] nums) {
        Arrays.sort(nums);
        for(int i = 0; i < nums.length; i++)
            if(nums[i] != i) return i;
        return nums.length;
```

Q2 Longest Duplicate Substring

Code :

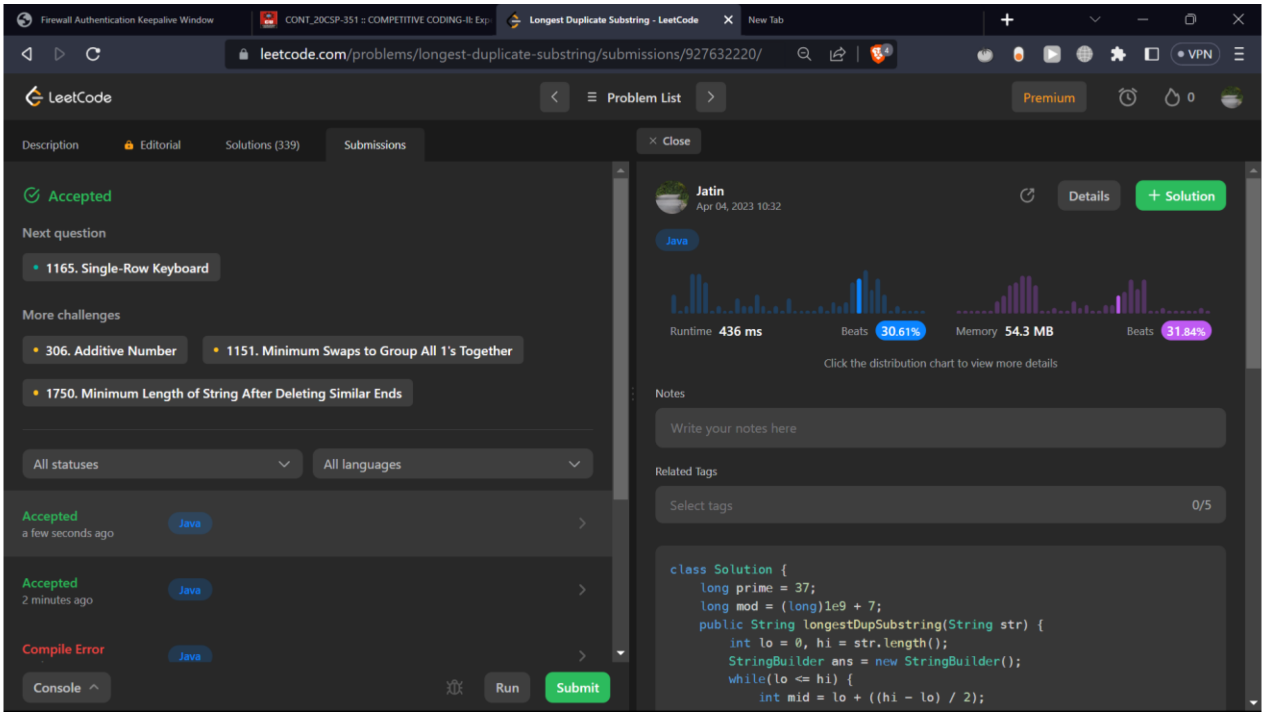


```
class Solution {
    long prime = 37;
    long mod = (long)1e9 + 7;
    public String longestDupSubstring(String str) {
        int lo = 0, hi = str.length();
        StringBuilder ans = new StringBuilder();
        while(lo <= hi) {
            int mid = lo + ((hi - lo) / 2);
            String currWindow = findString(str, mid);
            if(currWindow.length() > 0) {
                ans = new StringBuilder(currWindow);
                lo = mid + 1;
            }
            else hi = mid - 1;
        }
        return ans.toString();
    }
    private String findString(String str, int window) {
        Map<Long, List<Integer>> hashcode = new HashMap<>();
        long power = 1;
        long hash = 0;
        for (int i = window - 1; i >= 0 ; i--) {
            int curr = str.charAt(i) - 'a' + 1;
            hash = (hash + curr * power + mod) % mod;
            if(i > 0)
                power = (power * prime) % mod;
        }
        hashcode.put(hash, new ArrayList<>());
        hashcode.get(hash).add(0);

        int start = 0, end = window;
        while(end < str.length()) {
            int prevCh = str.charAt(start) - 'a' + 1;
            int nextCh = str.charAt(end) - 'a' + 1;

            hash = (hash - (prevCh * power) % mod + mod) % mod;
            hash = (hash * prime) % mod;
            hash = (hash + (nextCh)) % mod;
```



```
            if(hashcode.containsKey(hash)) {
                String curr = str.substring(start + 1, end + 1);
                List<Integer> list = hashcode.get(hash);
                for(int index : list) {
                    if(curr.equals(str.substring(index, index + window)))
                        return curr;
                }
            }
            else {
                hashcode.put(hash, new ArrayList<>());
            }
            hashcode.get(hash).add(start + 1);
            start++;
            end++;
        }
        return "";
    }
}
```

Output :


Firewall Authentication Keepalive Window
CONT_20CSP-351 :: COMPETITIVE CODING-II: Exp
Longest Duplicate Substring - LeetCode
New Tab
VPN
LeetCode
Problem List
Premium
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Description
Editorial
Solutions (339)
Submissions
Close
Details
+ Solution
Console
Run
Submit

leetcode.com/problems/longest-duplicate-substring/submissions/927632220/

Accepted

Next question

- 1165. Single-Row Keyboard

More challenges

- 306. Additive Number
- 1151. Minimum Swaps to Group All 1's Together
- 1750. Minimum Length of String After Deleting Similar Ends

All statuses | All languages

Accepted — a few seconds ago — Java

Accepted — 2 minutes ago — Java

Compile Error — Java

Jatin
Apr 04, 2023 10:32

Java

Runtime 436 ms Beats 30.61%

Memory 54.3 MB Beats 31.84%

Click the distribution chart to view more details

Notes

Write your notes here

Related Tags

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```java
class Solution {
    long prime = 37;
    long mod = (long)1e9 + 7;
    public String longestDupSubstring(String str) {
        int lo = 0, hi = str.length();
        StringBuilder ans = new StringBuilder();
        while(lo <= hi) {
            int mid = lo + ((hi - lo) / 2);
```