Experiment 2.3

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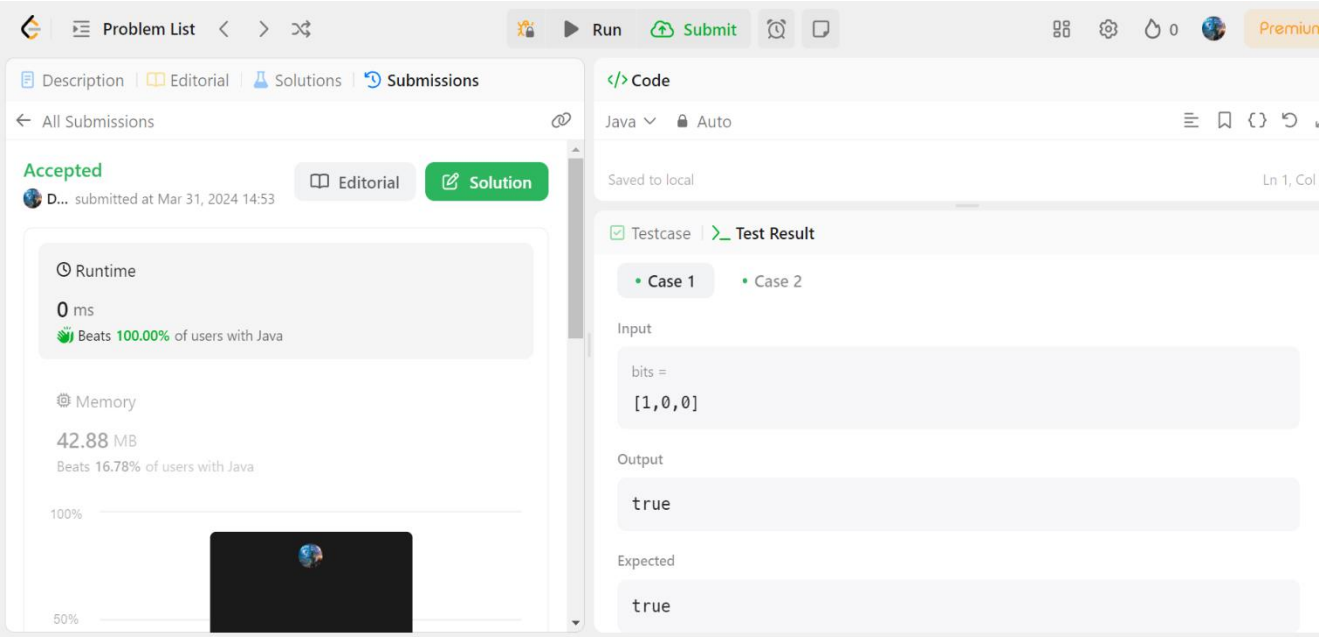
Semester: 6th **Date of Performance:30/03/2024**
Subject Name: AP Lab 2 **Subject Code: 21CSP-351**

1. **Aim:** To demonstrate the concept of Divide and Conquer.
2. **Objective:**
   (a) **1-Bit and 2-Bit Character:** We have two special characters:
   The first character can be represented by one bit 0.
   The second character can be represented by two bits (10 or 11).
   Given a binary array bit that ends with 0, return true if the last character must be a one-bit character.
   (b) **Jewels and Stones:** You're given strings jewels representing the types of stones that are jewels, and stones representing the stones you have. Each character in stones is a type of stone you have. You want to know how many of the stones you have are also jewels.
   Letters are case sensitive, so "a" is considered a different type of stone from "A".
3. **Script and Output:**
   (a) 1-Bit and 2-Bit Character

```
class Solution {
    public boolean isOneBitCharacter(int[] bits) {
        int i=0;
        int n=bits.length;
        while(i<n-1){
            if(bits[i]==1){
                i=i+2;
            }
            else{
                i=i+1;
            }
        }
        return i==n-1;
    }
}
```

Output



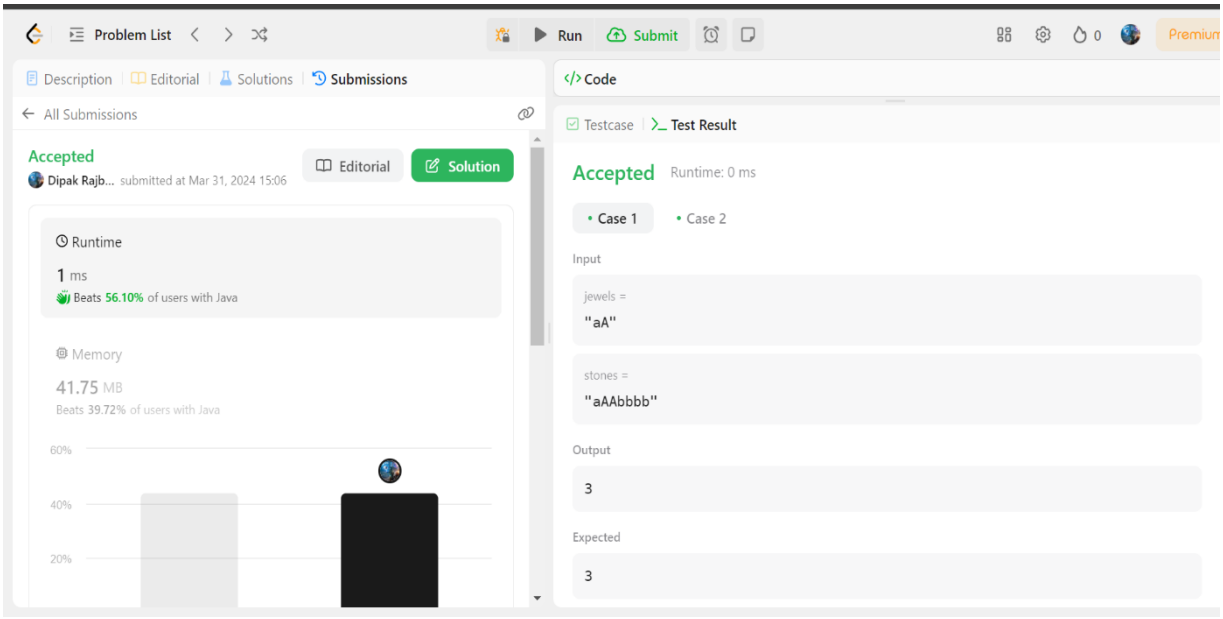
(c) Jewels and Stones

```
class Solution {

    public int numJewelsInStones(String jewels,
String stones) {
          HashMap<Character, Integer> hm = new
HashMap<>();
        for(int i = 0; i < stones.length(); i++){
            char key = stones.charAt(i);
            if(hm.containsKey(key))
                hm.put(key, hm.get(key) + 1);
            else
                hm.put(key, 1);
        }
        int ans = 0;
        for(int i =0; i <jewels.length(); i++){
            char key = jewels.charAt(i);
            if(hm.containsKey(key))
                ans = ans  + hm.get(key);
        }
            return ans;
    }
```

```
}
```

Output :


Problem List
Run
Submit
Premium
Description
Editorial
Solutions
Submissions
Code
All Submissions
Testcase
Test Result
Accepted
Dipak Rajb... submitted at Mar 31, 2024 15:06
Editorial
Solution
Runtime
1 ms
Beats 56.10% of users with Java
Memory
41.75 MB
Beats 39.72% of users with Java
60%
40%
20%
Accepted
Runtime: 0 ms
Case 1
Case 2
Input
jewels =
"aA"
stones =
"aAAbbbb"
Output
3
Expected
3