Sherlock and the Valid String ☆

Problem   Submissions   Leaderboard   Editorial 🔒

Sherlock considers a string to be valid if all characters of the string appear the same number of times. It is also valid if he can remove just 1 character at 1 index in the string, and the remaining characters will occur the same number of times. Given a string s, determine if it is valid. If so, return YES, otherwise return NO.

For example, if $s = abc$, it is a valid string because frequencies are $\{a : 1, b : 1, c : 1\}$. So is $s = abcc$ because we can remove one c and have 1 of each character in the remaining string. If $s = abccc$ however, the string is not valid as we can only remove 1 occurrence of c. That would leave character frequencies of $\{a : 1, b : 1, c : 2\}$.

Function Description

Complete the isValid function in the editor below. It should return either the string YES or the string NO.

isValid has the following parameter(s):

- s: a string

Input Format

A single string s.

Constraints

- $1 \leq |s| \leq 10^5$
- Each character $s[i] \in ascii[a - z]$

Output Format

Print YES if string s is valid, otherwise, print NO.

Sample Input 0

    aabbcd

Sample Output 0

    NO

Explanation 0

Given $s = $ **"aabbcd"**, we would need to remove two characters, both c and d → aabb or a and b → abcd, to make it valid. We are limited to removing only one character, so s is invalid.

Sample Input 1

    aabbccddeefghi

Sample Output 1

```
NO
```

Explanation 1

Frequency counts for the letters are as follows:

`{'a': 2, 'b': 2, 'c': 2, 'd': 2, 'e': 2, 'f': 1, 'g': 1, 'h': 1, 'i': 1}`

There are two ways to make the valid string:

- Remove 4 characters with a frequency of 1: **{fghi}**.
- Remove 5 characters of frequency 2: **{abcde}**.

Neither of these is an option.

Sample Input 2

```
abcdefghhgfedecba
```

Sample Output 2

```
YES
```

Explanation 2

All characters occur twice except for **e** which occurs 3 times. We can delete one instance of **e** to have a valid string.

C#

```
15    class Solution {
16
17        // Complete the isValid function below.
18        static string isValid(string s) {
19
20            var temp = s.ToArray().GroupBy(a => a)
21                         .Select(b => b.Count()).OrderByDescending(c => c);
22
23            int x = 0, y = 0;
24            foreach(var item in temp)
25            {
26                if (item > x)
27                    x = item;
28                if (item != x && x > 0)
29                    y += item;
30            }
31            return ((y - 1) - x == 0 || y == 0 || y - 1 == 0) ? "YES" : "NO";
```