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.

Example

$s = abc$

This is a valid string because frequencies are $\{a : 1, b : 1, c : 1\}$.

$s = abcc$

This is a valid string because we can remove one c and have 1 of each character in the remaining string.

$s = abccc$

This string is not valid as we can only remove 1 occurrence of c. That leaves character frequencies of $\{a : 1, b : 1, c : 2\}$.

Function Description

Complete the isValid function in the editor below.

isValid has the following parameter(s):

- string s: a string

Returns

- string: either YES or NO

Input Format

A single string s.

Constraints

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

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.

Change Theme JavaScript (Node.js)

```
47
48      let minFreq = Math.min(+freqEntries[0][0], +freqEntries[1][0]);
49      let maxFreq = Math.max(+freqEntries[0][0], +freqEntries[1][0]);
50
51      if (minFreq === maxFreq - 1 && frequency[maxFreq] === 1) return 'YES';
52      if (frequency[minFreq] > frequency[maxFreq]) {
53          minFreq = maxFreq;
54      }
55
56      console.log(frequency, minFreq);
57      if (+minFreq > 2) isValid = 'NO';
58      if (frequency[minFreq] > 1) isValid = 'NO'
59
60      return isValid;
61
62  }
63
64  function main() {
65      const ws = fs.createWriteStream(process.env.OUTPUT_PATH);
66
67      const s = readLine();
68
69      let result = isValid(s);
70
```

Line: 51 Col: 75

Upload Code as File Test against custom input Run Code Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0

Sample Test case 1

Input (stdin) Download

```
1  aabbcd
```

Sample Test case 2

Your Output (stdout)

```
1 NO
```

Expected Output Download

```
1 NO
```

Debug output

```
1 { '1': 2, '2': 2 } 1
```