algoleague

Who is Your Buddy

Problem

Submissions

Discussion Coming Soon

Everyone in the camp have a buddy, we know our buddy, but unfortunately we don't know whose buddy we are. Ömer wants to find out who his buddy is, and Gul gave him a string as a clue. He has to reorder that string's letters and turn it into a palindrome. If he can, Gul will give him the name of his buddy. Reorder the given string and print the smallest palindrome lexicographically. If it's not possible, print "$NO\ SOLUTION$" without quotes.

Input Format

1 string, the clue. It consists of only the uppercase English letters from `A` to `Z`.

Output Format

1 string, the lexicographically smallest reordered clue.

Constraints

$1 \leq length(clue) \leq 10^5$

Sample Input 1

```
JZZYJYA
```

Sample Output 1

```
JYZAZYJ
```

C++ (GCC 9.2.0) Bright **Memory Limit (kB) :** 256000 **Time Limit (s) :** 1

```cpp
#include <iostream>
#include <vector>
#include <algorithm>

using namespace std;

string findSmallestPalindrome(string clue) {
    vector<int> freq(26, 0);

    for (char ch : clue) {
        freq[ch - 'A']++;
    }

    int oddCount = 0;
    for (int i = 0; i < 26; i++) {
        if (freq[i] % 2 != 0) {
            oddCount++;
        }
    }

    if (oddCount > 1) {
        return "NO SOLUTION";
    }

    string firstHalf = "", secondHalf = "", mid = "";
    for (int i = 0; i < 26; i++) {
        if (freq[i] % 2 != 0) {
            mid = std::string(1, i + 'A');
            freq[i]--;
        }
        firstHalf += string(freq[i] / 2, i + 'A');
```

Upload File Test against custom test case Run Code Submit

Sample Test Case 0

Accepted

Input(stdin)

```
JZZYJYA
```

Output(stdin)

```
JYZAZYJ
```

Expected Output

```
JYZAZYJ
```