Reverse Shuffle Merge ★

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Given a string, A, we define some operations on the string as follows:

a. $reverse(A)$ denotes the string obtained by reversing string A. Example: `reverse("abc") = "cba"`

b. $shuffle(A)$ denotes any string that's a permutation of string A. Example: `shuffle("god") ∈ ['god', 'gdo', 'ogd', 'odg', 'dgo', 'dog']`

c. $merge(A1, A2)$ denotes any string that's obtained by interspersing the two strings $A1$ & $A2$, maintaining the order of characters in both. For example, `A1 = "abc"` & `A2 = "def"`, one possible result of $merge(A1, A2)$ could be `"abcdef"`, another could be `"abdecf"`, another could be `"adbecf"` and so on.

Given a string s such that `s ∈ merge(reverse(A), shuffle(A))` for some string A, find the lexicographically smallest A.

For example, $s = abab$. We can split it into two strings of ab. The reverse is ba and we need to find a string to shuffle in to get $abab$. The middle two characters match our reverse string, leaving the a and b at the ends. Our shuffle string needs to be ab. Lexicographically $ab < ba$, so our answer is ab.

Function Description

Complete the reverseShuffleMerge function in the editor below. It must return the lexicographically smallest string fitting the criteria.

reverseShuffleMerge has the following parameter(s):

- s: a string

Input Format

A single line containing the string s.

Constraints

- s contains only lower-case English letters, ascii[a-z]
- $1 \leq |s| \leq 10000$

Output Format

Find and return the string which is the lexicographically smallest valid A.

Sample Input 0

```
eggegg
```

Sample Output 0

```
egg
```

Explanation 0

Split "eggegg" into strings of like character counts: "egg", "egg"

reverse("egg") = "gge"

shuffle("egg") can be "egg"

"eggegg" belongs to the merge of ("gge", "egg")

The merge is: ***eggegg***.

'egg' < 'gge'

Sample Input 1

```
abcdefgabcdefg
```

Sample Output 1

```
agfedcb
```

Explanation 1

Split the string into two strings with like characters: ***abcdefg*** and ***abcdefg***.

Reverse ***abcdefg*** = ***gfedcba***

Shuffle ***gfedcba*** can be ***bcdefga***

Merge to **a*bcdefga****abcdefg***

Sample Input 2

```
aeiouuoiea
```

Sample Output 2

```
aeiou
```

Explanation 2

Split the string into groups of like characters: ***aeiou***

Reverse ***aeiou*** = ***uoiea***

These merge to ***aeiou*****uoiea**

Change Theme Language C#

```
using System.CodeDom.Compiler;
using System.Collections.Generic;
using System.Collections;
using System.ComponentModel;
using System.Diagnostics.CodeAnalysis;
using System.Globalization;
using System.IO;
using System.Linq;
using System.Reflection;
using System.Runtime.Serialization;
using System.Text.RegularExpressions;
using System.Text;
using System;

class Result
{

    /*
```

```
19      * Complete the 'reverseShuffleMerge' function below.
20      *
21      * The function is expected to return a STRING.
22      * The function accepts STRING s as parameter.
23      */
24
25     public static string reverseShuffleMerge(string s)
26     {
27         var result = new List<char>();
```

Line: 102 Col: 1

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