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# RATE THIS CHALLENGE



Given a string,  $\boldsymbol{A}$ , 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:  $shuffle("god") \in ['god', 'gdo', 'ogd', 'ogd', 'odg', 'dgo']$ 

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 "abdecf" and so on.

Given a string s such that  $s \in merge(reverse(A), shuffle(A))$  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 8.

# **Constraints**

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

## **Output Format**

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

## Sample Input 0

eggegg

#### Sample Output 0

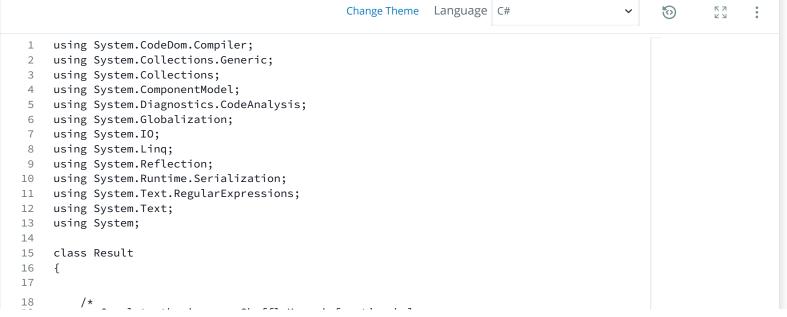
egg

#### **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 abcdefgabcdefg
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 aeiouuoiea
                                                                  Change Theme Language C#
                                                                                                                              100
```



```
19
         * Complete the 'reverseShuffleMerge' function below.
20
         \star The function is expected to return a STRING.
21
         \star The function accepts STRING s as parameter.
22
23
          */
24
         public static string reverseShuffleMerge(string s)
25
26
            var result = new List<char>();
27
                                                                                                     Line: 102 Col: 1
                                                                                                     Submit Code
                                                                                        Run Code
Test against custom input
```

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