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Reverse Shuffle Merge ★

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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: $shuffle("god") \in ['god', 'gdo', 'ogd', 'ogd', 'odg', 'dgo', 'dgo']$

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 "adbecf" 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 $oldsymbol{s}$.

Constraints

- **8** 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 $m{A}$.

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")

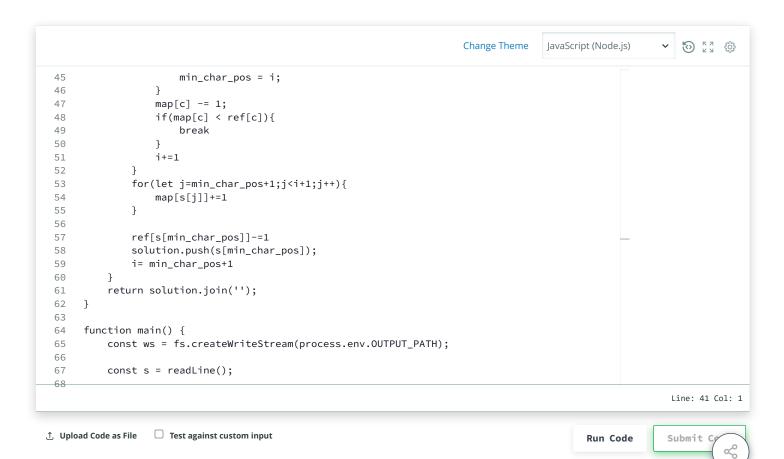
The merge is: **egge***gg*.

'egg' < 'gge'

Sample Input 1

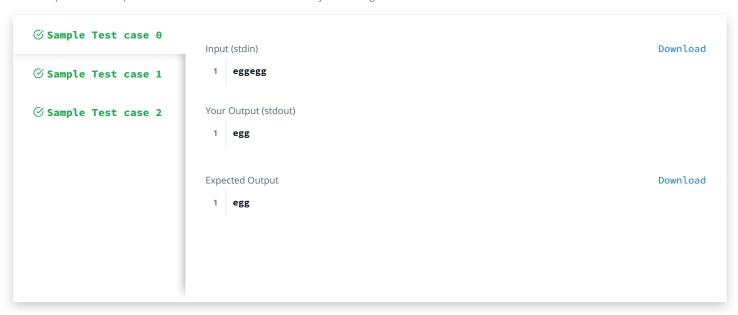


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abcdefgabcdefg
Sample Output 1
  agfedcb
Explanation 1
Split the string into two strings with like characters: abcdefg and abcdefg.
Reverse abcdefg = gfedcba
Shuffle gfedcba can be bcdefga
Merge to abcdefgabcdefg
Sample Input 2
  aeiouuoiea
Sample Output 2
  aeiou
Explanation 2
Split the string into groups of like characters: aeiou
Reverse aeiou = uoiea
These merge to aeiouuoiea
```



Congraturations:

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



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