Problem 3722: Lexicographically Smallest String After Reverse

Problem Information

Difficulty: Medium
Acceptance Rate: 54.66%
Paid Only: No
Tags: Two Pointers, Binary Search, Enumeration

Problem Description

You are given a string `s` of length `n` consisting of lowercase English letters.

You must perform **exactly** one operation by choosing any integer `k` such that `1 <= k <= n` and either:

* reverse the **first** `k` characters of `s`, or * reverse the **last** `k` characters of `s`.

Return the **lexicographically smallest** string that can be obtained after **exactly** one such operation.

Example 1:

Input: s = "dcab"

Output: "acdb"

Explanation:

* Choose `k = 3`, reverse the first 3 characters. * Reverse `"dca"` to `"acd"`, resulting string `s = "acdb"`, which is the lexicographically smallest string achievable.

Example 2:

Input: s = "abba"

Output: "aabb"

Explanation:

* Choose `k = 3`, reverse the last 3 characters. * Reverse `"bba"` to `"abb"`, so the resulting string is `"aabb"`, which is the lexicographically smallest string achievable.

Example 3:

Input: s = "zxy"

Output: "xzy"

Explanation:

* Choose `k = 2`, reverse the first 2 characters. * Reverse `"zx"` to `"xz"`, so the resulting string is `"xzy"`, which is the lexicographically smallest string achievable.

Constraints:

* `1 <= n == s.length <= 1000` * `s` consists of lowercase English letters.

Code Snippets

C++:

```
class Solution {
public:
string lexSmallest(string s) {

}
};
```

Java:

```
class Solution {
public String lexSmallest(String s) {

}
}
```

Python3:

```
class Solution:
def lexSmallest(self, s: str) -> str:
```