



## Longest Prefix Suffix

Difficulty: Hard Accuracy: 27.91% Submissions: 129K+ Points: 8

Given a string of characters, find the length of the longest proper prefix which is also a proper suffix.

**NOTE:** Prefix and suffix can be overlapping but they should not be equal to the entire string.

Examples :

**Input:** str = "abab"

**Output:** 2

**Explanation:** "ab" is the longest proper prefix and suffix.

**Input:** str = "aaaa"

**Output:** 3

**Explanation:** "aaa" is the longest proper prefix and suffix.

**Expected Time Complexity:**  $O(|str|)$

**Expected Auxiliary Space:**  $O(|str|)$

**Constraints:**

$1 \leq |str| \leq 10^6$

str contains lower case English alphabets

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Java (1.8)

Start Timer

```
1- //{ Driver Code Starts
2- // Initial Template for Java
3-
4- import java.io.*;
5- import java.util.*;
6-
7- class GFG {
8-
9-     public static void main(String args[]) throws IOException {
10-         BufferedReader read = new BufferedReader(new InputStreamReader(System.in));
11-         int t = Integer.parseInt(read.readLine());
12-         while (t-- > 0) {
13-
14-             String s = read.readLine();
15-             Solution ob = new Solution();
16-             System.out.println(ob.lps(s));
17-         }
18-     }
19- } // Driver Code Ends
20-
21-
22-
23- // User function Template for Java
24-
25- class Solution {
26-     int lps(String str) {
27-         int n = str.length();
28-         int[] lps = new int[n];
29-         int length = 0;
30-         int i = 1;
```

Custom Input

Compile & Run

Submit