Minimum Flips to Make the Binary String Alternate

Try to solve the Minimum Flips to Make the Binary String Alternate problem.

We'll cover the following

Statement

Given a binary string `s`, the following two operations can be performed in any sequence:

- Remove the character at the start of the string `s` and append it to the end of the string.
- Pick any character from the string and flip its value. in other words, if its value is 0, it becomes 1 and vice versa.

Your task is to return the minimum number of type-2 operations that you need to perform before `s` becomes alternating.

> **Note:** The string is called alternating if no two adjacent characters are equal.

Constraints:

- $1 \leq$ `s.length` $\leq 10^5$
- `s[i]` is either 0 or 1.

Examples

Sample example 1

Input

s	"11001"

We'll perform the first operation and then count the number of second operations needed to convert an array into an alternating string. Remember that the alternating string can be 0101 or 1010. So we'll check the second operation for two types of strings.

First op = 11001 → 10011

second op needed for arr1 = [3] (10011 → 01010)
second op needed for arr2 = [2] (10011 → 10101)

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Sample example 1

Input

s	"11001"

s	"11001"

First op = 10011 → 00111

second op needed for arr1 = [3, 3] (00111 → 01010)
second op needed for arr2 = [2, 2] (00111 → 10101)

Sample example 1

Input

s	"11001"

First op = 00111 → 01110

second op needed for arr1 = [2, 2, 1] (01110 → 01010)
second op needed for arr2 = [2, 2, 4] (01110 → 10101)

Sample example 1

Input

s	"11001"

First op = 01110 → 11100

second op needed for arr1 = [2, 2, 1, 3] (11100 → 01010)
second op needed for arr2 = [2, 2, 4, 2] (11100 → 10101)

Sample example 1

Input

s	"11001"

Result = min([2, 2, 1, 3], [2, 2, 4, 2]) = 1

Output

1

Understand the problem

Let’s take a moment to make sure you’ve correctly understood the problem. The quiz below helps you check if you’re solving the correct problem:

Minimum Flips to Make the Binary String Alternate

1 What is the output if the following string is given as input?

s = “110011011”

A) 2

B) 3

C) 4

D) 0

Submit Answer

Question 1 of 3
0 attempted

Reset Quiz

Try it yourself

Implement your solution in the following coding playground:

Java

usercode > main.java

```
1  import java.util.*;
2  public class Main{
3      public static int minFlips(String s) {
4
7          return 0;
8      }
9  }
```

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Submit

Test Cases Results

Case 1 | Case 2 | Case 3

Input #1

"111000"

Minimum Flips to Make the Binary String Alternate

Hide Hint

You might want to go over the Sliding Window pattern again.

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Lemonade Change

Mark as Completed