

# 1700. Minimum Time to Make Rope Colorful

## Difficulty : Medium

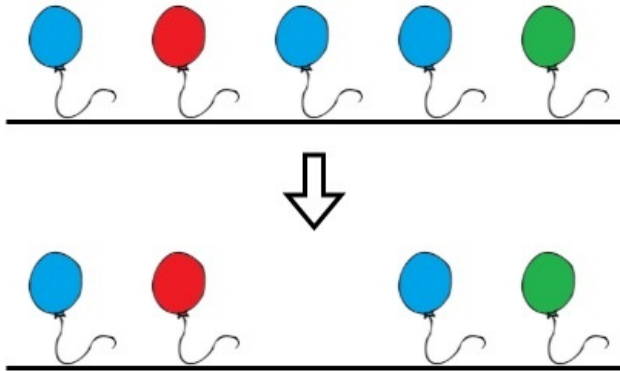
<https://leetcode.com/problems/minimum-time-to-make-rope-colorful>

Alice has  $n$  balloons arranged on a rope. You are given a **0-indexed** string `colors` where `colors[i]` is the color of the  $i^{\text{th}}$  balloon.

Alice wants the rope to be **colorful**. She does not want **two consecutive balloons** to be of the same color, so she asks Bob for help. Bob can remove some balloons from the rope to make it **colorful**. You are given a **0-indexed** integer array `neededTime` where `neededTime[i]` is the time (in seconds) that Bob needs to remove the  $i^{\text{th}}$  balloon from the rope.

Return the **minimum time** Bob needs to make the rope **colorful**.

### Example 1:



**Input:** `colors = "abaac"`, `neededTime = [1,2,3,4,5]`

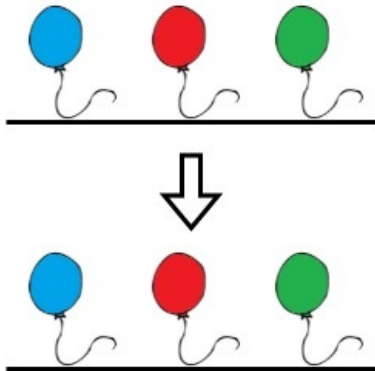
**Output:** 3

**Explanation:** In the above image, 'a' is blue, 'b' is red, and 'c' is green.

Bob can remove the blue balloon at index 2. This takes 3 seconds.

There are no longer two consecutive balloons of the same color. Total time = 3.

### Example 2:

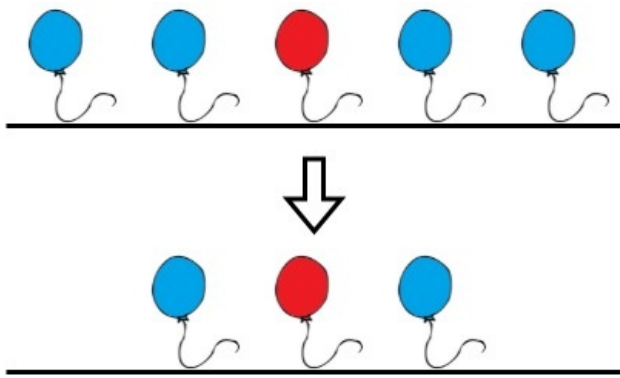


**Input:** `colors = "abc"`, `neededTime = [1,2,3]`

**Output:** 0

**Explanation:** The rope is already colorful. Bob does not need to remove any balloons from the rope.

### Example 3:



**Input:** colors = "aabaa", neededTime = [1,2,3,4,1]

**Output:** 2

**Explanation:** Bob will remove the balloons at indices 0 and 4. Each balloons takes 1 second to remove. There are no longer two consecutive balloons of the same color. Total time = 1 + 1 = 2.

### Constraints:

- $n == \text{colors.length} == \text{neededTime.length}$
- $1 \leq n \leq 10^5$
- $1 \leq \text{neededTime}[i] \leq 10^4$
- colors contains only lowercase English letters.