

# Help House Targaryen ! (300 points)

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## Introduction

Daenerys has arrived at King's Landing to battle Cersei.

Cersei, being fiercely protective, has managed to build a gate that cannot be burned down by dragons. Instead, this gate needs a key to open.

Luckily, Daenerys has Tyrion on her side. Since we know that Tyrion "drinks and knows things", he figured out that:

- The key to the door is a binary string which does not have "010" in it.
- Any key of that form can open the door
- It is possible to flip a bit from **0** to **1** (and vice versa) in a single step.

Given a binary string Daenerys needs your help to find minimum steps she needs to convert the string a to valid key.

## Input Specifications

The first line contains an integer, **N** (which is length of binary string **B**).

The second line contains a single binary string **B** of length **N**.

- $1 \leq N \leq 100000$
- Each character in  $B \in \{0, 1\}$

## Output Specifications

Print the minimum number of steps needed to convert given binary string to key.

## Sample Input/Output

### Input

```
7
0101010
```

### Output

```
2
```

### Explanation

0101010 can be converted to 0111010 by changing the 3rd bit in 1st step. 0111010 can be converted to 0111011 by changing the 7nd bit in next step

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### Input

5

01100

### **Output**

0

### **Explanation**

01100 does not have any '010' so this is the key and requires no change