Chef loves games! But he likes to invent his own. Now he plays the game "Digit Jump". Chef has a sequence of digits S_1, S_2,…, S_N. He is staying in the first digit S_1 and wants to reach the last digit SN in the minimal number of jumps.

While staying in some index **i**, Chef can jump into **i−1** and **i+1**, but he can't jump out from sequence. Or he can jump into any digit with the same value S_i.

Help Chef to find the minimal number of jumps he needs to reach digit S_N from digit S_1.

Input
The input contains a single line consisting of string S of length N - the sequence of digits.

Output
In a single line print a single integer - the minimal number of jumps he needs.

Constraints

- $1 \leq N \leq 10^5$
- Each symbol of S is a digit from 0 to 9.

Sample Input 1
01234567890

Sample Output 1
1

Sample Input 2
012134444444443

Sample Output 2
4