Problem E. Chef and Digit Jumps

Time limit	1000 ms
Code length Limit	50000 B
OS	Linux

Read problems statements in Mandarin Chinese and Russian.

Chef loves games! But he likes to invent his own. Now he plays game "Digit Jump". Chef has a sequence of digits $S_1, S_2, \ldots, S_N$. He is staying in the first digit S_1 and wants to reach the last digit S_N 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 need to reach digit S_N from digit S_1.

Input

Input contains a single line consist of string S of length N - the sequence of digits.

Output

In a single line print 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 1

Input	Output
01234567890	1

Test Case 1: Chef can directly jump from the first digit (it is 0) to the last (as it is also 0).

Sample 2

Input	Output
012134444444443	4

Test Case 2: Chef should follow the following path: $1 - 2 - 4 - 5 - 15$.