PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   STANDINGS   CUSTOM INVOCATION

E. Tom and Palindrome

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Tom is playing with a string on his computer. The string consists of n lowercase English letters. It is meaningless, so Tom decided to make the string more beautiful, that is to make it be a palindrome by using 4 arrow keys: $left, right, up, down$.

There is a cursor pointing at some symbol of the string. Suppose that cursor is at position i $(1 \le i \le n$, the string uses 1-based indexing) now. $Left$ and $right$ arrow keys are used to move cursor around the string. The string is cyclic, that means that when Tom presses $left$ arrow key, the cursor will move to position $i - 1$ if $i > 1$ or to the end of the string (i. e. position n) otherwise. The same holds when he presses the $right$ arrow key (if $i = n$, the cursor appears at the beginning of the string).

When Tom presses up arrow key, the letter which the text cursor is pointing to will change to the next letter in English alphabet (assuming that alphabet is also cyclic, i. e. after 'z' follows 'a'). The same holds when he presses the $down$ arrow key.

Initially, the text cursor is at position 1.

Because Tom has a lot homework to do, he wants to complete this as fast as possible. Can you help him by calculating the minimum number of arrow keys presses to make the string to be a palindrome?

Input

The first line contains one integer n $(1 \le n \le 10^5)$ the length of Tom's string.

The next line contains n lowercase characters of Tom's string.

Output

Print the minimum number of presses needed to change string into a palindrome.

Example

input
8 aeabcaez

output
5