Longest Palindromic Substring

A palindrome is a string that is the same as its reverse. Example "malayalam", "dad", "appa" etc. In this problem you are asked to find the length of the longest contiguous substring of a given string, which is a palindrome.

Input

The first line consists of a single integer N, the no. of characters in the string. 1 <= N <= 100000.

Second line is a string with N characters, where the characters are always lowercase english alphabets, ie 'a' to 'z'.

Output

A single line with an integer representing the length of longest palindromic substring.

Example

Input:

5
ababa

Output:

5