

A. Mike and palindrome

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Mike has a string s consisting of only lowercase English letters. He wants to **change exactly one** character from the string so that the resulting one is a palindrome.

A palindrome is a string that reads the same backward as forward, for example strings "z", "aaa", "aba", "abccba" are palindromes, but strings "codeforces", "reality", "ab" are not.

Input

The first and single line contains string s ($1 \leq |s| \leq 15$).

Output

Print "YES" (without quotes) if Mike can change **exactly** one character so that the resulting string is palindrome or "NO" (without quotes) otherwise.

Examples

input
abccaa
output
YES

input
abbcca
output
NO

input
abcda
output
YES