

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

Copy

abccaa

output

Copy

YES

input

Copy

abbcca

output

Copy

NO

input

Copy

abcda

output

Copy

YES