

A. Two Substrings

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

You are given string S . Your task is to determine if the given string S contains two non-overlapping substrings "AB" and "BA" (the substrings can go in any order).

Input

The only line of input contains a string S of length between 1 and 10^5 consisting of uppercase Latin letters.

Output

Print "YES" (without the quotes), if string S contains two non-overlapping substrings "AB" and "BA", and "NO" otherwise.

Examples

input
ABA
output
NO

input
BACFAB
output
YES

input
AXBYBXA
output
NO

Note

In the first sample test, despite the fact that there are substrings "AB" and "BA", their occurrences overlap, so the answer is "NO".

In the second sample test there are the following occurrences of the substrings: **BACFAB**.

In the third sample test there is no substring "AB" nor substring "BA".

Codeforces Round #306 (Div. 2)

Finished

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