

## 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

Copy

ABA

#### output

Copy

NO

#### input

Copy

BACFAB

#### output

Copy

YES

#### input

Copy

AXBYBXA

#### output

Copy

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".