

## A. Two Substrings

Time limit: 2s

Memory limit: 256 MB

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**

<b>input</b>
ABA
<b>output</b>
NO

<b>input</b>
BACFAB
<b>output</b>
YES

<b>input</b>
AXBYBXA
<b>output</b>
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".