The String

**Time Limit:** 2.0s  **Memory Limit:** 256M

Yiit is not good with problems involved with strings and there is a problem he's having difficulties with. There is a string consisting of upper case characters A and B in the problem. In a single turn, Yiit can remove the first and the last occurrences of any character, but only if they don't coincide. Can you help Yiit and find the lexicographically smallest non-empty string that can be obtained after any number of turns?

String $s$ is considered lexicographically smaller than $t$ if $s$ is a prefix of $t$, or $s$ has a smaller character at the first position, they differ (from left to right).

**Input**

The only line contains the initial string $s$ that Yiit have.

- $1 \leq |s| \leq 10^5$,
- $s$ consists only of characters A and B.

**Output**

Print the answer to the problem.

**Example**

Input:

```
BBABBAB
```

Output:

```
ABA
```

**Explanation**

Yiit can two times remove the first and the last occurrences of character B to get the string ABA. This is the lexicographically smallest possible result they can achieve.