

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.