

B. Palindrome

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Given a string s , determine if it contains any palindrome of length exactly 100 as a **subsequence**. If it has any, print any one of them. If it doesn't have any, print a palindrome that is a subsequence of s and is as long as possible.

Input

The only line of the input contains one string s of length n ($1 \leq n \leq 5 \cdot 10^4$) containing only lowercase English letters.

Output

If s contains a palindrome of length exactly 100 as a subsequence, print any palindrome of length 100 which is a subsequence of s . If s doesn't contain any palindromes of length exactly 100, print a palindrome that is a subsequence of s and is as long as possible.

If there exists multiple answers, you are allowed to print any of them.

Examples

input
bbbabcbbb
output
bbbcbbb

input
rquwmzexecvnbane msmduf rg
output
rumenanemur

Note

A subsequence of a string is a string that can be derived from it by deleting some characters without changing the order of the remaining characters. A palindrome is a string that reads the same forward or backward.