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 ($1 \le n \le 5 \cdot 10^4$) 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
rquwmzexectvnbanemsmdufrg

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.