C. Lexicographically Maximum Subsequence

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You've got string s, consisting of only lowercase English letters. Find its lexicographically maximum subsequence.

We'll call a non-empty string $s[p_1 p_2 \ldots p_k] = s_{p_1} s_{p_2} \ldots s_{p_k} (1 \le p_1 < p_2 < \ldots < p_k \le |s|)$ a *subsequence* of string $s = s_1 s_2 \ldots s_{|s|}$.

String $x = x_1 x_2 \ldots x_{|x|}$ is *lexicographically larger* than string $y = y_1 y_2 \ldots y_{|y|}$, if either $|x| > |y|$ and $x_1 = y_1, x_2 = y_2, \ldots, x_{|y|} = y_{|y|}$, or exists such number r $(r < |x|, r < |y|)$, that $x_1 = y_1, x_2 = y_2, \ldots, x_r = y_r$ and $x_{r+1} > y_{r+1}$. Characters in lines are compared like their ASCII codes.

Input

The single line contains a non-empty string s, consisting only of lowercase English letters. The string's length doesn't exceed 10^5.

Output

Print the lexicographically maximum subsequence of string s.

Examples

input
ababba
output
bbba

input
abbcbccacbbcbaaba
output
cccccbba

Note

Let's look at samples and see what the sought subsequences look like (they are marked with uppercase bold letters).

The first sample: a**B**a**BB**A

The second sample: abb**C**b**CC**a**C**bb**CB**aa**BA**