Up Subsequence

If $x = a_0a_1a_2...a_{n-1}$ is a string where a_i denotes the character at index i, a subsequence $a_{j0}a_{j1}a_{j2}...a_{jn}$ is called an upsubsequence if $a_{j0} <= a_{j1} <= a_{j2} <= ... <= a_{jn}$ and $j0 < j1 < j2 < ... < jn$.

A maximal upsubsequence of a string is defined as the upsubsequence of maximum length. BuggyD observes that a string **x** can have many maximal upsubsequences. Help him find all the maximal upsubsequences in **x**.

Input

The first line of the input contains an integer **t**, the number of test cases. **t** test cases follow.

Each test case consists of a single line containing a string **x**, where the length of **x** is no more than 100. **x** will not contain any spaces, tabs or other whitespace characters.

Output

For each test csae, output all of the maximal upsubsequences of **x** in lexicographical order. Print a blank line after each test case.

Example

Input:
```
1
abcbcbcd
```

Output:
```
abbbcd
abbccd
abcccd
```