

## Problem B. Redistribution of Digits

Input file:            standard input  
Output file:           standard output  
Time limit:            1 second  
Memory limit:         256 megabytes

You are required to form numbers based on a given set of digits. Each number is also provided with an upper bound. Each digit from the given set must be used exactly once. If the set does not contain a digit, you are not allowed to use it.

### Input

First line contains an integer  $t$  — the number of tests.

Each of the next  $t$  lines contains a string  $s$  — a given set of digits, integer  $n$  — quantity of numbers which should be formed and  $n$  integers  $a_i$  — upper bounds for numbers. The digits for all numbers  $a_i$  are given in a non-increasing order starting from the most significant digit. The set of digits and the numbers  $a_i$  do not contain a digit 0.

$$1 \leq t \leq 1000$$

$$1 \leq |s| \leq 500$$

$$1 \leq n \leq 50$$

$$1 \leq a_i \leq 10^9$$

### Output

You are required to output  $t$  lines containing the given quantity of numbers corresponding the conditions above. If a solution does not exist you should print "-1". If there are multiple solutions, you may output any of them.

### Example

standard input	standard output
3	14 23
1234 2 21 43	-1
12534 2 21 43	42
42 1 42	