

Problem K. K Integers

Input file: *standard input*
 Output file: *standard output*
 Time limit: 2 seconds
 Memory limit: 512 mebibytes

You are given a string s of length n .

A sequence of integers t is an **index sequence** if $1 \leq t_1 < t_2 < \dots < t_k \leq n$, where k is the length of t .

A string corresponding to an index sequence t is the the following string: $s_{t_1}s_{t_2}\dots s_{t_k}$. Note that it is always a subsequence of s .

You are given an index sequence. Find the lexicographically smallest string which corresponds to some index sequence which contains the given one as a subsequence.

Input

The first line contains the string s consisting of n ($1 \leq n \leq 5 \cdot 10^5$) lowercase English letters.

The second line contains a single integer k ($1 \leq k \leq n$), length of t .

The third line contains k integers t_i ($1 \leq t_i \leq n$). t is an index sequence.

Output

Print a single string — the answer to the problem.

Examples

standard input	standard output
links 2 3 4	ink
abacaba 2 4 6	aacab
pepega 2 2 6	ea
gaypride 2 6 7	aid
pogchamp 3 1 2 3	pog
frankerz 1 8	aerz
blesrng 8 1 2 3 4 5 6 7 8	blesrng
residentsleeper 4 1 3 7 15	resdeneeer