

Knuth-Morris-Pratt algorithm

Cost: 8 | Solved: 107

Memory limit: 256 MBs
Time limit: 1 s
Input: standard input
Output: standard output
Task:
You have to write the implementation of Knuth–Morris–Pratt algorithm that finds a certain substring in a string.
Input:

The first line contains a string s.

The second line contains a natural *m* – the number of substrings.

Each of the next m lines contains a substring that is needed to be found in the string s.

Output:

For each substring (one per line), output *all the indexes* of a subtring's appearance in the string \mathbf{s} in ascending order.

Example:

Input	Output

abcdefa	
3	3
cde	4
de	17
a	