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PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

H. BerOS File Suggestion

time limit per test: 3 seconds memory limit per test: 256 megabytes input: standard input output: standard output

Polycarp is working on a new operating system called BerOS. He asks you to help with implementation of a file suggestion feature.

There are n files on hard drive and their names are f_1, f_2, \ldots, f_n . Any file name contains between 1 and 8 characters, inclusive. All file names are unique.

The file suggestion feature handles queries, each represented by a string s. For each query s it should count number of files containing s as a substring (i.e. some continuous segment of characters in a file name equals s) and suggest any such file name.

For example, if file names are "read.me", "hosts", "ops", and "beros.18", and the query is "os", the number of matched files is 2 (two file names contain "os" as a substring) and suggested file name can be either "hosts" or "beros.18".

Input

The first line of the input contains integer n ($1 \le n \le 10000$) — the total number of files.

The following n lines contain file names, one per line. The i-th line contains f_i — the name of the i-th file. Each file name contains between 1 and 8 characters, inclusive. File names contain only lowercase Latin letters, digits and dot characters (' . '). Any sequence of valid characters can be a file name (for example, in BerOS " . ", " . . " and " . . . " are valid file names). All file names are unique.

The following line contains integer q ($1 \le q \le 50000$) — the total number of queries.

The following q lines contain queries s_1, s_2, \ldots, s_q , one per line. Each s_j has length between 1 and 8 characters, inclusive. It contains only lowercase Latin letters, digits and dot characters ('.').

Output

Print q lines, one per query. The j-th line should contain the response on the j-th query — two values c_j and t_j , where

- c_{j} is the number of matched files for the j-th query,
- t_j is the name of any file matched by the j-th query. If there is no such file, print a single character '-' instead. If there are multiple matched files, print any.

Example



2018-2019 ICPC, NEERC, Southern Subregional Contest (Online Mirror, ACM-ICPC Rules, Teams Preferred)

Finished

Practice

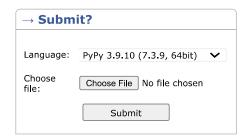


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Start virtual contest

→ Clone Contest to Mashup You can clone this contest to a mashup. Clone Contest



→ Last submissions		
Submission	Time	Verdict
204623823	May/05/2023 18:55	Wrong answer on test 1
204619531	May/05/2023 18:47	Wrong answer on test 1
204613054	May/05/2023 18:37	Wrong answer on test 1
204570657	May/05/2023 17:26	Wrong answer on test 1
204570523	May/05/2023 17:25	Wrong answer on test 1
204145562	May/01/2023 17:37	Accepted
204142883	May/01/2023 17:07	Wrong answer on test 1



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