Fingerprints

professor Emad Eldin one of the best people in pattern recognation , he asked his students to create a program to check if a special pattern belongs to fingerprints of someone or not.

he said that we can consider that a computer reads the special pattern and the fingerprints as strings , and we can say that the special pattern belongs to the fingerprint if the last substring of the fingerprint string is the same as the special pattern string.

Your task is to help professor Emad students.

Input

The first line of the input contains special pattern string S($1 \leq |S| \leq 50$). second line will be a single integer N, the number of fingerprints ($1 \leq N \leq 10$).N lines follow, each line contains fingerprint string F($1 \leq |F| \leq 50$).

Output

For each test case, print an integer K, the number of fingerprints strings that spicial pattern string belongs to it. Followed by K lines, each contains the fingerprint string that the special pattern string belongs to it. You should print the fingerprint strings in a lexicographical order. If there is no fingerprint belongs to the special pattern , print "Wrong fingerprints!" instead.

Examples

Input:
On
5
Pattern recognatiOn
CommOn patterN
game
organizatiOn
lion

Output:
2
Pattern recognatiOn
organizatiOn

Input:
Ze
2
Fingerprint
pattern design

Output:
Wrong fingerprints!

Notes

- String S contains upper-case English letters ('A' - 'Z') and lower-case English letters ('a' - 'z') only.

- All other strings in the input contains upper-case English letters ('A' - 'Z'), lower-case English letters ('a' - 'z') and spaces (' ') only.

- All strings are case sensitive ('A' is not equal to 'a').

-Lexicographical order is defined in following way. When we compare s and t, first we find the leftmost position with differing characters: $s_i \neq t_i$. If there is no such position (i. e. s is a prefix of t or vice versa) the shortest string is less. Otherwise, we compare characters si and ti according to their order in alphabet.