

Military Institute of Science and Technology
B.Sc. in Computer Science and Engineering
Practice Problems on TRIE (Fall-2021) : Week-4

Subject: CSE-216, Data Structures and Algorithms-II Sessional

INSTRUCTIONS:

- a. Solution of each problem is attached
- b. Don't see the solutions before brainstorming

P – 1 [Solution](#)

Do you know that it is possible to keep the track of frequency of the words given as input in a TRIE? Now you will be given *n* number of words to store them in a TRIE where duplicacy can occur. Your task is to print them in lexicographic order. Note that a word must be printed *f* number of times where *f* is the input frequency of that word.

Input

First line of input contains a single integer *n*. Next *n* lines of input contain a word *w*.

Constraint

- *w* contains only uppercase letters

Output

Print the words in lexicographic order separated by a single newline where a word must be printed *f* number of times where *f* is the input frequency of that word.

Sample Input Output

Input	Output
10	AIUB
MIST	AIUB
AIUB	BAIUST
BUBT	BUBT
BAIUST	BUET
MIST	BUET
BUET	CU
BUET	MIST
MIST	MIST
AIUB	MIST
CU	

P – 2 [Solution](#)

TRIE is one of the best data structures to support prefix/suffix based search. To implement a prefix based search you will be given *n* number of unique words to store in a TRIE. Your task is to print all the strings stored in the TRIE in lexicographic order that contain *p* as their prefix where *p* is a string and will be given as input by the user.

Input

First line of input contains a single integer *n*. Next *n* lines of input contain a word *w*. Next line of input contains an integer *q* that denotes the number of queries. Next *q* number of lines contains a string *p* each.

Constraint

- *w* and *p* contains only uppercase letters

Output

For each query print all the words in lexicographic order separated by a single space that contain *p* as their prefix along with their query number. If no word contains *p* as prefix then print “No result found” for that query. See the sample input output section for clarification about the input output format.

Sample Input Output

Input	Output
10 BUP MIST MISTIAN BUET BUBT MIT MISC UIU BAIUST UIT 8 BU U M MIST MIST BA BN B	Query 1: BUBT BUET BUP Query 2: UIT UIT Query 3: MISC MIST MISTIAN MIT Query 4: MISTIAN Query 5: MIST MISTIAN Query 6: BAIUST Query 7: No result found Query 8: BAIUST BUBT BUET BUP