

Word Review

Description

Kyaru has just finished her argumentative essay, the most significant part of the course work of GE1401 University English. In the class, teacher gave her a list of academic words. Before submitting, she would like to check quality of her essay by find a consecutive part in her essay where most academic words are used. Also, the number of words in the part she finds needs to be as small as possible.

Input

The input contains several cases. For each case, there holds:

The first line of the input contains a positive integer n , indicating the number of words in the academic word list.

In the following n lines, each line contains a string with a length not exceeding 10, representing an academic word.

The next line contains a positive integer m , indicating the word count of Kyaru's essay.

In the following m lines, each line contains a string with a length not exceeding 10, together denoting the content of the essay.

The input of test cases terminates by end of file.

Output

For each test case, output two lines. The first line contains an integer indicating the number of academic words appearing in the part found (the same word appearing multiple times counts only **once**), followed by another line containing an integer indicating the length of this part.

Sample Input/Output

Input

```
3
analyze
initiates
split
14
when
a
nuclear
reaction
initiates
the
old
uranium
nucleus
will
split
into
```

```
two
nuclei
3
analyze
initiates
split
6
i
do
not
love
university
english
```

Output

```
2
7
0
0
```

Constraint

$1 \leq n \leq 1000, 1 \leq m \leq 100000$.

It is guaranteed that all the words consist of only English alphabet in lowercase.

Hint

$O(nm)$ algorithm or any other better algorithm can pass through all test cases.