

Jack and Jill were arguing about which one of them had the richest vocabulary. Because neither one of them gave up, Jill proposed a game to test Jack's vocabulary:

- Jill would write down a list of strings, each one of them called a *challenge*.
- A challenge s in Jill's list is *solved* by Jack if he could say a word w from his vocabulary, such that every letter occurs in w with at least the same multiplicity that occurs in s . Two different challenges may be not solved with the same word.

Jack's vocabulary is defined as the set of words he knows. Given a list of Jill's challenges, Jack would like to know how many of them he can solve.

Input

There are several cases to solve. Each case begins with a line containing blank-separated numbers V and C : the former is the number of words in Jack's vocabulary ($1 \leq V \leq 500$) and the latter is the number of challenges presented by Jill ($1 \leq C \leq 500$). Each one of the next V lines contains a word in Jack's vocabulary. Then, each one of the next C lines contains a challenge made by Jill. Both, the words in Jack's vocabulary and the challenges made by Jill, consist of 1 to 30 lowercase English letters (a..z). Jack's vocabulary does not contain duplicate words.

Output

For each test case, print the maximum number of challenges that Jack can solve.

Sample Input

```
1 1
icpc
pic
4 3
sequoia
march
may
tree
ae
aeiou
acm
```

Sample Output

```
1
2
```