Sevenk Love Oimaster

Oimaster and sevenk love each other.

But recently,sevenk heard that a girl named ChuYuXun was dating with oimaster. As a woman's nature, sevenk felt angry and began to check oimaster's online talk with ChuYuXun.

Oimaster talked with ChuYuXun n times, and each online talk actually is a string. Sevenk asks q questions like this,

"how many strings in oimaster's online talk contain this string as their substrings?"

Input

There are two integers in the first line,
the number of strings n and the number of questions q.
And n lines follow, each of them is a string describing oimaster's online talk.
And q lines follow, each of them is a question.
n<=10000, q<=60000
the total length of n strings<=100000,
the total length of q question strings<=360000

Output
For each question, output the answer in one line.
Example

Input:
3 3
hi,I'mChuYuXun..YouaresohandsomethatIfallinlovewithyou
butIlovesevenk..you'dbettergoaway
55555555555
ChuYuXun
you
55555555

Output:
1
2
1