Ancient Puzzle

Byteman has found a map that can lead him to the treasure of the Ancient Bitpeople. Unfortunately, it's encrypted and he needs the key to solve it. He can find the key by solving a puzzle that the Bitpeople left behind. He has a string **S** and a dictionary of **M** words of equal length. The key is the count of indices of substring(**S**) in **S** that is a concatenation of each word in the dictionary exactly once and without any intervening characters in any order. The words in the substring should also not overlap. The words in the dictionary can also be same. Given **S** and the dictionary, find the key and help Byteman in finding the treasure.

Input Format:

The first line contains the string **S**.
The second line contains the integer **M**.
Next **M** lines contain the words of the dictionary. All of equal length.

Output Format:

Print the key.

Constraints:

1 <= **N** <= 100000
1 <= **M** * length of a word <= 1000000

Sample Input:

barfoothefoobarman
2
foo
bar

Ancient Puzzle

Sample Output:

2

Indices = [0, 9]