code jam

cout << "hello, world!" << endl;

Qualification Round 2009

A. Alien Language

B. Watersheds

C. Welcome to Code Jam

Contest Analysis

Questions asked 7

Submissions

Alien Language

10pt	Not attempted
	7863/9407 users correct (84%)
23pt	Not attempted
	6938/8239 users correct (84%)

Watersheds

10pt	Not attempted
	5201/5887 users correct (88%)
23pt	Not attempted
	4674/5422 users correct (86%)

Welcome to Code Jam

10pt	Not attempted
	5255/5975 users correct (88%)
23pt	Not attempted
	3029/5339 users correct (57%)

Top Scores

jaehyunp	99
rem	99
Ying	99
ahmed.aly.tc	99
wcao	99
austrin	99
RalphFurmaniak	99
Jonick	99
elhipercubo	99
ralekseenkov	99

Practice Mode

Contest scoreboard | Sign in

Problem A. **Alien Language**

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the Quick-Start Guide to get started.

Small input 10 points	Solve A-small
Large input 23 points	Solve A-large

Problem

After years of study, scientists at Google Labs have discovered an alien language transmitted from a faraway planet. The alien language is very unique in that every word consists of exactly **L** lowercase letters. Also, there are exactly **D** words in this language.

Once the dictionary of all the words in the alien language was built, the next breakthrough was to discover that the aliens have been transmitting messages to Earth for the past decade. Unfortunately, these signals are weakened due to the distance between our two planets and some of the words may be misinterpreted. In order to help them decipher these messages, the scientists have asked you to devise an algorithm that will determine the number of possible interpretations for a given pattern.

A pattern consists of exactly **L** tokens. Each token is either a single lowercase letter (the scientists are very sure that this is the letter) or a group of unique lowercase letters surrounded by parenthesis (and). For example: (ab)d(dc) means the first letter is either a or b, the second letter is definitely d and the last letter is either d or c. Therefore, the pattern (ab)d(dc) can stand for either one of these 4 possibilities: add, adc, bdd, bdc.

Input

The first line of input contains 3 integers, **L**, **D** and **N** separated by a space. **D** lines follow, each containing one word of length **L**. These are the words that are known to exist in the alien language. **N** test cases then follow, each on its own line and each consisting of a pattern as described above. You may assume that all known words provided are unique.

Output

For each test case, output

```
Case #X: K
```

where **X** is the test case number, starting from 1, and **K** indicates how many words in the alien language match the pattern.

Limits

Small dataset

$1 \le L \le 10$
$1 \le D \le 25$
$1 \le N \le 10$

Large dataset

$1 \le L \le 15$
$1 \le D \le 5000$
$1 \le N \le 500$

Sample

Input	Output
3 5 4	Case #1: 2
abc	Case #2: 1
bca	Case #3: 3
dac	Case #4: 0
dbc	
cba	
(ab)(bc)(ca)	
abc	
(abc)(abc)(abc)	
(zyx)bc	