

Round 2 2015

- A. Pegman
- B. Kiddie Pool
- C. Bilingual
- D. Drum Decorator

[Contest Analysis](#)

[Questions asked](#)

Submissions	
Pegman	
5pt	Not attempted 2225/2349 users correct (95%)
10pt	Not attempted 2195/2237 users correct (98%)
Kiddie Pool	
7pt	Not attempted 1503/2051 users correct (73%)
18pt	Not attempted 290/709 users correct (41%)
Bilingual	
6pt	Not attempted 955/1564 users correct (61%)
24pt	Not attempted 169/257 users correct (66%)
Drum Decorator	
11pt	Not attempted 208/558 users correct (37%)
19pt	Not attempted 56/88 users correct (64%)

Top Scores	
Gennady.Korotkevich	100
peter50216	100
rng..58	100
ZhukovDmitry	100
hos.lyric	100
semiexp.	100
iwi	100
tkociumaka	100
eatmore	100
EgorKulikov	100

Problem C. Bilingual

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
6 points

Solve C-small

Large input
24 points

Solve C-large

Problem

Elliot's parents speak French and English to him at home. He has heard a lot of words, but it isn't always clear to him which word comes from which language! Elliot knows one sentence that he's sure is English and one sentence that he's sure is French, and some other sentences that could be either English or French. If a word appears in an English sentence, it must be a word in English. If a word appears in a French sentence, it must be a word in French.

Considering all the sentences that Elliot has heard, what is the minimum possible number of words that he's heard that must be words in both English and French?

Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow. Each starts with a single line containing an integer **N**. **N** lines follow, each of which contains a series of space-separated "words". Each "word" is made up only of lowercase characters a-z. The first of those **N** lines is a "sentence" in English, and the second is a "sentence" in French. The rest could be "sentences" in either English or French. (Note that the "words" and "sentences" are not guaranteed to be valid in any real language.)

Output

For each test case, output one line containing "Case #x: y", where x is the test case number (starting from 1) and y is the minimum number of words that Elliot has heard that must be words in both English and French.

Limits

1 ≤ **T** ≤ 25.
Each word will contain no more than 10 characters.
The two "known" sentences will contain no more than 1000 words each.
The "unknown" sentences will contain no more than 10 words each.

Small dataset

2 ≤ **N** ≤ 20.

Large dataset

2 ≤ **N** ≤ 200.

Sample

Input	Output
4	Case #1: 1
2	Case #2: 4
he loves to eat baguettes	Case #3: 3
il aime manger des baguettes	Case #4: 8
4	
a b c d e	
f g h i j	
a b c i j	
f g h d e	
4	
he drove into a cul de sac	
elle a conduit sa voiture	
il a conduit dans un cul de sac	
il mange pendant que il conduit sa voiture	
6	
adieu joie de vivre je ne regrette rien	
adieu joie de vivre je ne regrette rien	
a b c d e	
f g h i j	
a b c i j	
f g h d e	

In Case #1, Elliot knows for sure that the first sentence is in English and the second is in French, so there is no ambiguity; the only word that must be in both English and French is "baguettes".

In Case #2, the last two sentences could either be: English English, English French, French English, or French French. The second of those possibilities is the one that minimizes the number of words common to both languages; that set turns out to be d, e, i, and j.

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