Word Pronunciation

Time Limit : 1 Second
Memory Limit : 512 MB

Indonesian words can be considered as *easy* to pronounce. Normally, you will be able to pronounce a word without difficulty (not considering accent) if you know how to spell it, regardless whether you have heard that word before.

Most of the vocabularies in Indonesian (Bahasa Indonesia) are easy to pronounce as well. The word often consists of alternating consontants and vowels, e.g., "api" (vowel-consonant-vowel), "batu" (consontant-vowel-consonant-vowel), "belajar", "ikan", etc. Of course, there are other words such as "air" (vowel-vowel-consonant) and "citra" (consonant-vowel-consonant-consonant-vowel) which do not follow the alternating rule.

In this problem, you are to find whether the given word satisfies the alternating rule (consists of alternating consontants and vowels). If by any chance you don't know what consonants and vowels are, here is a useful list for you to use.

Consonants: `b c d f g h j k l m n p q r s t v w x y z ng`

Vowels: `a i u e o`

One thing you should pay attention to is: The sequence of one 'n' followed by one 'g' (`ng`) is considered as one character in this problem, which is a consonant (look at the list of consonants above). For example, the word "abang" consists of 4 characters: a-b-a-ng, and the word "penggaris" consists of 8 characters: p-e-ng-g-a-r-i-s.

For each word, you should capitalized the characters which are part of two (or more) consecutive consonants or two (or more) consecutive vowels.

Input

Input begins with an integer: T (1 ≤ T ≤ 100) denoting the number of cases.

Each case contains the following input block: Each case contains one string of lowercase characters: S (1 ≤ |S| ≤ 100) in a single line denoting the given word.

Output

For each case, output in a line "`Case #X: Y`" where `X` is the case number (starts from 1) and `Y` is the given word in which every character which is part of two (ore more) consecutive consontants or two (or more) consecutive vowels is capitalized (uppercased). See the example output for clarity.

Examples

input	Example #1

```
7
belajar
juara
pengajaran
kemplang
abang
```

```
penggaris
indonesia
```

output

```
Case #1: belajar
Case #2: jUAra
Case #3: pengajaran
Case #4: keMPLang
Case #5: abang
Case #6: peNGGaris
Case #7: iNDonesIA
```

End of Problem