Welcome to Code Jam (Easy)

Problem ID: welcomeeasy
CPU Time limit: 1 second
Memory limit: 1024 MB
Difficulty: 2.0

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Note that this is an easier version of the problem welcomehard.

So you've registered. We sent you a welcoming email, to welcome you to code jam. But it's possible that you still don't feel welcomed to code jam. That's why we decided to name a problem "welcome to code jam." After solving this problem, we hope that you'll feel very welcome. Very welcome, that is, to code jam.

If you read the previous paragraph, you're probably wondering why it's there. But if you read it very carefully, you might notice that we have written the words "welcome to code jam" several times: $400\,263\,727$ times in total. After all, it's easy to look through the paragraph and find a 'w'; then find an 'e' later in the paragraph; then find an 'l' after that, and so on. Your task is to write a program that can take any text and print out how many times that text contains the phrase "welcome to code jam".

To be more precise, given a text string, you are to determine how many times the string "welcome to code jam" appears as a sub-sequence of that string. In other words, find a sequence s of increasing indices into the input string such that the concatenation of $\text{input}[s[0]], \text{input}[s[1]], \ldots, \text{input}[s[18]]$ is the string "welcome to code jam".

The result of your calculation might be huge, so for convenience we would only like you to find the last 4 digits.

Input

The first line of input gives the number of test cases $T, 1 \leq T \leq 100$. The next N lines of input contain one test case each. Each test case is a single line of text of length at most 30, containing only lower-case letters and spaces. No line will start with a space, and no line will end with a space.

Output

For each test case, "Case #x: $dddd$", where x is the case number, and $dddd$ is the last four digits of the answer. If the answer has fewer than 4 digits, please add zeroes at the front of your answer to make it exactly 4 digits long.

Sample Input 1

```
3
elcomew elcome to code jam
wweellccoommee to code qps jam
welcome to codejam
```

Sample Output 1

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Case #1: 0001
Case #2: 0256
Case #3: 0000
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