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Facebook Hacker Cup 2012 Qualification Round

This round has ended. Feel free to use the problems for practice though!

Alphabet Soup

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Alfredo Spaghetti really likes soup, especially when it contains alphabet pasta. Every day he constructs a se of broth and enjoys delicious alphabet soup.

Today, after constructing the sentence, Alfredo remembered that the Facebook Hacker Cup starts today! Th "HACKERCUP". As he already added the letters to the broth, he is stuck with the letters he originally selecte can place the word "HACKERCUP" side-by-side using the letters in his soup.

Input

The first line of the input file contains a single integer T: the number of test cases. T lines follow, each repres upper-case letters and spaces: the original sentence Alfredo constructed.

Output

Output T lines, one for each test case. For each case, output "Case #: n", where t is the test case number (s word "HACKERCUP" can be placed side-by-side using the letters from the sentence.

Constraints

 $1 < T \leq 20$

Sentences contain only the upper-case letters A-Z and the space character

Each sentence contains at least one letter, and contains at most 1000 characters, including spaces

Example input

```
5
WELCOME TO FACEBOOK HACKERCUP
CUP WITH LABEL HACKERCUP BELONGS TO HACKER
QUICK CUTE BROWN FOX JUMPS OVER THE LAZY DOG
MOVE FAST BE BOLD
HACK THE HACKERCUP
```

```
Case #1: 1
Case #2: 2
Case #3: 1
Case #4: 0
Case #5: 1
```



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