

CAPS ON

Alice gives a simple task to Bob. The task is as follows: Given a string, Bob has to capitalize the first letter of every word in the string AND also replace the spaces between words by underscore("_"). Alice gives Bob a String containing lowercase words separated by one or more space characters and Bob should return a String that is same as the String except with the first character of each word capitalized and space replaced by underscore.

Input

First line of input contains T, the number of test cases. The following T lines contain input Strings each on a new line.

Output

Print the Case index followed by the Processed String.

Constraints

String may have leading or trailing spaces.

String will contain between 1 and 50 characters, inclusive.

Each character of string will either be a space or a lowercase letter ('a' to 'z').

T is less than 50.

Example

Input:

```
4
the hobbit
an unexpected journey
dream share innovate
a
```

Output:

```
Case#1: The_Hobbit
Case#2: An_Unexpected__Journey
Case#3: Dream_Share_Innovate
Case#4: A
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