

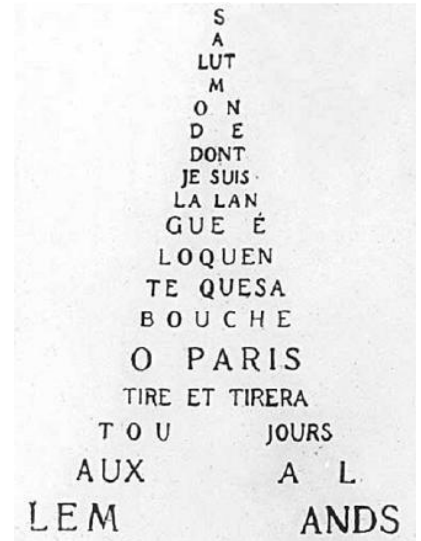
Problem 6: The Calliframe

Difficulty: Medium

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Problem Background

Maelo is a visual artist known for creating calligrams - an image created from words or phrases related to the subject being depicted. Artists are always trying to innovate and come up with new designs, however, and *Maelo* has an idea for a new art trend: The Calliframe. A Calliframe is an art frame in which the design is a word or phrase that can be read forward and backward around the frame.



Problem Description

Maelo has hired your team to help with the creation of Calliframes. You'll need to evaluate a word or phrase to determine if it can be used to form a Calliframe according to these rules:

- A word or phrase should be between 5 and 32 characters, inclusive.
- Only uppercase and lowercase letters are valid characters.

If a word or phrase meets these rules, your program should build the layout of the Calliframe. A Calliframe is a square in which the first and last letters of the word or phrase appear on the corners. The word or phrase will read forwards when read across the top and down the left side of the frame, but will read backwards when read across the bottom or down the right side of the frame. The interior of the frame should contain only spaces.

Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include a single line containing a word or phrase to be evaluated. These may contain any printable US ASCII character.

```
5
CodeQuest
Air
Programming
Lov3 is 1n 7he @ir
The Black Mamba
```

Sample Output

For each test case, your program must determine if the word or phrase can be made into a Calliframe using the rules provided above. If it cannot, print a single line with the phrase "Not a Calliframe". If it can, print the resulting layout of the Calliframe as described above.

```
CodeQuest
o      s
d      e
e      u
Q      Q
u      e
e      d
s      o
tseuQedoC
Not a Calliframe
Programming
r      n
o      i
g      m
r      m
a      a
m      r
m      g
i      o
n      r
gnimmargorP
Not a Calliframe
Not a Calliframe
```