

10800 Not That Kind of Graph

“You know, it’s all very sweet, stealing from the rich, selling to the poor...”
 Jose Molina, "Firefly."

Your task is to graph the price of a stock over time. In one unit of time, the stock can either **R**ise, **F**all or stay **C**onstant. The stock’s price will be given to you as a string of R’s, F’s and C’s. You need to graph it using the characters '/' (slash), '\' (backslash) and '_' (underscore).

Input

The first line of input gives the number of cases, *N*. *N* test cases follow. Each one contains a string of at least 1 and at most 50 upper case characters (R, F or C).

Output

For each test case, output the line 'Case #x:', where *x* is the number of the test case. Then print the graph, as shown in the sample output, including the *x*- and *y*-axes. The *x*-axis should be one character longer than the graph, and there should be one space between the *y*-axis and the start of the graph. There should be no trailing spaces on any line. Do not print unnecessary lines. The *x*-axis should always appear directly below the graph. Finally, print an empty line after each test case.

Sample Input

```
1
RCRFCRFFCCRRRC
```

Sample Output

```
Case #1:
|
|  _/\_/\
| /  \  \ /
|-----
```