

Making your own Calculator

Fed up using your operating system's stupid calculator and wanting for some recreation, you decide to make your own calculator. However, your everyday tasks revolve only around four operations: +, -, *, /. Furthermore, all the answers should be outputted in the form of {ans}% (10^9+7).

Input

The first line contains an integer T , the number of test cases. Each of the next T lines consists of an infix expression to be evaluated. The length of an expression won't exceed 100 characters.

Output

Output exactly T lines corresponding to each input test case. The output format for a particular test case should be of the form "Case # x : y ", where x is the test-case number and y is the evaluated answer.

Example

Input:

```
2
10+5*3
10*9/4-5
```

Output:

```
Case #1: 25
Case #2: 17
```

Explanation:

Case #1: * has a greater priority than +. So, $5*3$ gets evaluated first.

Case #2: (*,/) have the same priority. Hence, we evaluate them from left to right. $10*9$ will give 90. $90/4$ will be 22(truncate the non-integer part). And finally, $22-5$ will result in 17.