In this problem, you are to solve a very easy linear equation with only one variable x with no parentheses! An example of such equations is like the following:

$$2x - 4 + 5x + 300 = 98x$$

An expression in its general form, will contain a '=' character with two expressions on its sides. Each expression is made up of one or more terms combined by '+' or '-' operators. No unary plus or minus operators are allowed in the expressions. Each term is either a single integer, or an integer followed by the lower-case character x or the single character x which is equivalent to $1x$.

You are to write a program to find the value of x that satisfies the equation. Note that it is possible for the equation to have no solution or have infinitely many. Your program must detect these cases too.

Input

The first number in the input line, t ($1 \le t \le 10$) is the number of test cases, followed by t lines of length at most 255 each containing an equation. There is no blank character in the equations and the variable is always represented by the lower-case character 'x'. The coefficients are integers in the range (0..1000) inclusive.

Output

The output contains one line per test case containing the solution of the equation. If s is the solution to the equation, the output line should contain $\lfloor s \rfloor$ (the "floor" of s, i.e., the largest integer number less than or equal to s). The output should be 'IMPOSSIBLE' or 'IDENTITY' if the equation has no solution or has infinite solutions, respectively. Note that the output is case-sensitive.

Sample Input

```
2
2x-4+5x+300=98x
x+2=2+x
```

Sample Output

```
3
IDENTITY
```