10756   HardNumbers

The students of university M. like to play the game "HardNumbers".

The rules are the following: you are given a sequence of digits. Your goal is to obtain a given number from them by using some operations. The operations you may perform are given in the input.

Input

The first line of the input contains the number of the test cases, which is at most 40. The descriptions of the test cases follow.

The first line a test case description contains the original sequence of at most five digits without spaces. The second line contains the integer number you have to obtain. (The number is from -10^9 to 10^9.) The third line contains a sequence of characters without spaces describing the rules. Each character allows one to use some operation. The operations and their characters are listed below:

Character	Operation
+	addition
-	subtraction
*	multiplication
/	real division
x	throwing away some (not all) of the digits
j	concatenation of some subsequent digits in a single integer
p	permutation of the digits

The original sequence of digits and rule description string are nonempty. The test cases are separated by blank lines.

Output

For each test case in the input, output 'Impossible' (without quotes), if it is impossible to obtain the given number using the given set of operations, or any expression yielding the number otherwise. The expression syntax is given below:

expression ::= *number* | '(' *expression* '+' *expression* ')' | '(' *expression* '-' *expression* ')' | '(' *expression* '*' *expression* ')' | '(' *expression* '/' *expression* ')';
number ::= *digit* | *digit number*;
digit ::= '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9';

The expression must contain no spaces. It may contain an operation sign (+-/*) only if this operation is permitted by the rules. If throwing away digits is permitted, each digit must enter in the expression no more times than it entered in the original sequence of digits, otherwise each digit must enter in the expression as many times as it entered in the original sequence of digits. If concatenation of subsequent digits is not permitted, each number in the expression must contain exactly one digit. If permutation of the digits is not permitted, the sequence of digits in the expression must be a subsequence of the original sequence of digits. The value of the expression must be equal to the given number. Print a blank line between test cases.

Sample Input

```
1

1346
24
+-*/p
```

Sample Output

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(6/(1-(3/4)))
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