

A. Algebra

Input File: A.txt
Run Time Limit: 10 sec

Given an equation containing unknowns and a list of possible integers to substitute for the unknown, determine if there is an assignment of values to the unknowns that makes the equation correct.

Input:

Each test case in the input file consists of two lines:

- * The first line contains a sequence of natural numbers. The first one ($1 \leq n \leq 5$) is the number of unknowns that will occur in the expression. It is followed by a sequence of n integers $v_1 \dots v_n$ ($0 \leq v_i \leq 50$), which are the values to be assigned to the unknowns. Finally, there is an integer m ($0 \leq m \leq 1000$) representing the desired result of the evaluation of the expression.
- * The second line contains an arithmetic expression composed of lowercase letters ($a - z$), and binary operators ($+$, $-$, $*$). This expression will contain n unknowns, represented by n different lowercase letters, without repetitions.
The expression will not contain any blanks and will always be syntactically correct, i.e. it will be an unknown or it will have the form $(e_1 \text{ op } e_2)$, where e_1 and e_2 are expressions and op is one of the three possible binary operators.
The expression is to be evaluated using the operator precedence rules of regular algebra. For example, $a+b*c-d*e$, with $a=5$, $b=6$, $c=7$, $d=2$, and $e=3$, has value $5+6*7-2*3 = 5+42-6$ which is 41.

The input will finish with a dummy test case of just one line containing 0 0, which must not be processed.

Output:

For each test case, print a single line with *YES* if there exists an assignment of the values $v_1 \dots v_n$ to the unknowns such that the expression evaluates to m , and *NO* otherwise. Notice that each value v_i must be assigned to exactly one unknown.

Sample Input	Output for Sample Input
3 2 3 4 14	YES
a+b*c	NO
2 4 3 11	YES
a-b	
1 2 2	
a	
0 0	