

A quality arithmetic expression consists of brackets, number and operations of multiplication and addition.

A quality arithmetic expression is defined recursively in the following way:

- An expression consisting of only one **positive real** number smaller than or equal to Z_1 is of good quality.

Such expression is of the following form:

$$(x)$$

For example, if $Z_1 = 5$, then (4) is a quality expression.

- If A_1, A_2, \dots, A_k are quality expressions such that $2 \leq k \leq K$ and **the sum** of these expressions is at most Z_k , then the following expressions are of good quality:

$$(A_1 + A_2 + \dots + A_k)$$

$$(A_1 * A_2 * \dots * A_k)$$

You are given a quality expression where the numbers are replaced by question marks. Determine the **maximal** possible value that the expression could have had.

INPUT

The first line of input contains integer K ($2 \leq K \leq 50$).

The second line of input contains integers Z_1, \dots, Z_K , separated by space ($1 \leq Z_1, \dots, Z_K \leq 50$).

The third line of input contains one quality arithmetic expression in the described format.

Arithmetic expression consists of: '?', '*', '+', '(', ')', and its length is 1 000 000 characters, at most.

OUTPUT

You must output the maximal possible value of the expression.

A solution is considered correct if the absolute or relative deviation from the official solution is less than 10^{-3} .

SAMPLE TESTS

input	input	input
2	3	3
10 6	2 5 3	2 10 6
((?)+(?))	(((?)+(?))*(?))	((?)*(?)*(?))
output	output	output
6.00000	6.00000	8.000000000

Clarification of the first test case:

The expression $((3)+(3))$ satisfies the conditions, so it is a quality expression, and it is easy to check that 6 is the maximal value.

Clarification of the second test case:

The maximum is achieved for, for instance, the expression $((1)+(2))*(2)$.

Clarification of the third test case:

The maximum is achieved for, for instance, the expression $(2)*(2)*(2)$.