# Quality

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 $A_1$ , $A_2$ , …, $A_k$ are quality expressions such that $2 \le k \le K$ the sum of these expressions is at most $Z_k$ , then the following expressions are of good quality:

$(A_1+A_2+...+A_k)$
$(A_1 *A_2 *...*A_k)$

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 ($2 \le K \le 50$). The second line of input contains integers $Z_1$ , …, $Z_K$,, separated by space ($1 \le Z_1$ , …, $Z_K \le 50$).
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 input | Sample output |
| --- | --- |
| 2<br>10 6<br>((?)+(?)) | 6.00000 |
| 3<br>2 5 3<br>(((?)+(?))*(?)) | 6.00000 |
| 3<br>2 10 6<br>((?)*(?)*(?)) | 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)).