

Biểu thức

- **Reverse Polish notation (RPN)**, is a mathematical notation in which operators follow their operands. The notation does not need any parentheses for as long as each operator has a fixed number of operands.

- In RPN, the operators follow their operands. For example, to add 3 and 4 together, the expression is $3\ 4\ +$ rather than $3 + 4$. The conventional notation expression $3 - 4 + 5$ becomes $3\ 4\ -\ 5\ +$ in reverse Polish notation: 4 is first subtracted from 3, then 5 is added to it.

You are given an array of strings tokens that represents an arithmetic expression in a RPN.

Your task is evaluate the expression. Return result that represents the value of the expression.

Input

- The first line contains an integer T ($T \leq 100$) - the number of testcases
- Each testcase includes:
 - The first line is a unique integer N (N is odd and $N \geq 3$) – Number of elements.
 - The second line is an array containing N elements of 2 types:
 - Type 1: integer I ($1 \leq I \leq 9$).
 - Type 2: O operator (O belongs to $\{ +, -, *, / \}$)

Surely input always has results.

Output

A single number of the result of the problem, precision 10^{-6} .

Example

Input:

1

7

5 6 2 + * 3 /

Output:

13.333333