January 2023 CSE 106
Online: Stack

Time: 25 minutes

Subsections A1 & A2

Given a sequence of strings that represents a certain arithmetic expression, you need to evaluate the value of the expression in integer.

Expression Format

1. `"1" "2" "+" "3" "-"`
   Denoted Expression: `((1 + 2) - 3)`
   Evaluation: `((1 + 2) - 3) = (3 - 3) = 0`

2. `"1" "2" "3" "*" "+"`
   Denoted Expression: `(1 + (2 * 3))`
   Evaluation: `(1 + (2 * 3)) = (1 + 6) = 7`

3. `"5" "14" "4" "7" "*" "24" "-" "/" "6" "+" "*"`
   Denoted Expression: `(5 * ( (14 / ((4*7) - 24)) + 6 ))`
   Evaluation:
   ```
   (5 * ( (14 / ((4*7) - 24)) + 6 ))
   = (5 * ( (14 / (28 - 24)) + 6 ))
   = (5 * ( (14 / 4) + 6 ))
   = (5 * ( 3 + 6 ))
   = (5 * 9)
   = 45
   ```

Constraints

- The string sequence consists of **operators** and **operands** only.

- The only valid **operators** are ″+″, ″-″, ″*″ and ″/″.

- The ″/″ denotes an integer division.

- There will not be any division by zero.

- Each **operand** is a non-negative integer.

Input

First take an integer n as input, that denotes the number of strings to be taken in the sequence.

Next, take n space-separated strings, that denote the elements of the string sequence in order.

Output

Print the value of the denoted expression in an integer.

See the Sample I/O for further clarification.

Sample I/O

Input	Output
5 1 2 + 3 -	0
5 4 2 3 * +	10
11 5 14 4 7 * 24 - / 6 + *	45
13 21 18 - 8 10 5 / + 2 / * 15 +	30

Marks Distribution

Approach	Marks
Print the evaluated result	70%
Implement using Stack	100%

Please note that any usage of the internet is strictly prohibited during the assignment. Usage of any unfair means will be duly punished.