
Completely parenthesized expression

P45102_en

Write a program that reads a completely parenthesized expression, and prints the result of evaluating it. The three possible operators are sum, subtraction and multiplication. The operands are natural numbers between 0 and 9 (both included).

Input

Input has a completely parenthesized expression. That is, parentheses always appear around subexpressions that are not digits. For instance, the expression $4 + 3$ would be written

`(4 + 3)`

The expression $8 * (4 + 3)$ would be written

`(8 * (4 + 3))`

The expression $(2 - 8) * (4 + 3)$ would be written

`((2-8) * (4+3))`

Output

Print a line with an integer number: the result of evaluating the given expression.

Hint

Note that an expression is either directly a digit, or an opening parenthesis, followed by an expression, by an operator, by another expression, and by a closing parenthesis. Take inspiration in this fact to write a simple recursive program.

Sample input 1

9

Sample output 1

9

Sample input 2

`(3 + 4)`

Sample output 2

7

Sample input 3

`(8 * (4 + 3))`

Sample output 3

56

Sample input 4

`((2 - 8) * (4 + 3))`

Sample output 4

-42

Sample input 5

`((3 * 2) + 1)`

Sample output 5

7

Problem information

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Generation : 2024-05-02 17:47:08

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