Taus

Arithmetic Expression Evaluator

User's Manual

Version 1.0

Revision History

Date	Version	Description	Author
11/12/24	1.0	Create the User Manual and review different troubleshooting cases the User may run into.	Jonathan Gott, Will Calhoun, Charlie Doherty, Josh Dwoskin, Calder Kamman, Caleb Hite

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Test Case

1. Purpose

Arithmetic Expression Evaluator: Input a valid math expression into the terminal input and the program will solve the expression and display the output.

2. Introduction

The purpose of this program is to take an input of a valid math expression into the terminal input and the program will solve the expression and display the output.

3. Getting started

To use the Arithmetic Expression Evaluator, input any valid syntax math expression and the output will be displayed. Operators that can be used include "( ) + - * ^ / %".

4. Advanced features

This program follows PEMDAS, or order of operations, to correctly display the output. The program correctly parses numeric constants in the input, so that the input is correctly solved inside the code.

5. Troubleshooting

If the program does not initially display anything, try running the program again.
If the program displays an error, try looking over the input for any errors. If this does not work, try rewriting the input to make a valid expression.

6. Examples

Input: -(2 * (-3))	Output: 6
Input: 5 + 5	Output: 10
Input: 5^3	Output: 125
Input: a1	Output: Error: <error>

7. Glossary of terms

Order of operations: The order in which math expressions are solved to get the correct answer.

PEMDAS: Parenthesis, Exponent, Multiplication, Division, Addition, Subtraction, the correct order to solve math problems.

Numeric constant: An integer from 0-9

8. FAQ

Q: What if the input is not valid? A: The program will not crash, and will instead display an error message saying the input is invalid.

Q: How does the code implement PEMDAS? A: The code assigns a numeric value between 1-3 to the different operators, with a higher number indicating a higher priority, using that to decide the order of operations.