
<Team 19>

<Arithmetic Expression Evaluator>

Test Case

Version <1.0>

[Note: The following template is provided for use with the Unified Process for EDUcation. Text enclosed in square brackets and displayed in blue italics (style=InfoBlue) is included to provide guidance to the author and should be deleted before publishing the document. A paragraph entered following this style will automatically be set to normal (style=Body Text).]

[To customize automatic fields (which display a gray background when selected), select File>Properties and replace the Title, Subject and Company fields with the appropriate information for this document. After closing the dialog, automatic fields may be updated throughout the document by selecting Edit>Select All (or Ctrl-A) and pressing F9, or simply click on the field and press F9. This must be done separately for Headers and Footers. Alt-F9 will toggle between displaying the field names and the field contents. See Word help for more information on working with fields.]

<Arithmetic Expression Evaluator>	Version: <1.0>
Test Case	Date: <12/12/24>
<document identifier>	

Revision History

Date	Version	Description	Author
<12/12/24>	<1.0>	<Created and completed test case document>	<Kyle Fleming>

<Arithmetic Expression Evaluator>	Version: <1.0>
Test Case	Date: <12/12/24>
<document identifier>	

Table of Contents

1.	Purpose	4
2.	Test case identifier	4
3.	Test item	4
4.	Input specifications	4
5.	Output specifications	4
6.	Environmental needs	4
	6.1.1 Hardware	4
	6.1.2 Software	4
	6.1.3 Other	4
7.	Special procedural requirements	5
8.	Intercase dependencies	5

<Arithmetic Expression Evaluator>	Version: <1.0>
Test Case	Date: <12/12/24>
<document identifier>	

Test Case

1. Purpose

The purpose of this document is to define a test case for verifying the parsing and evaluation of arithmetic expression based on the project requirements

NOTE: for sections 2, 3, 4, and 5: It is OK to use a table like the one proposed in class, also suggested on the project part 5 description.

2. Test case identifier

Test Case ID: TC01-Expression_Evaluation

3. Test item

This test case will evaluate the functionality of the arithmetic expression evaluator based on the following features as outlined in the Requirement Specification and Design Specification documents:

1. Parsing arithmetic expressions
2. Numeric constant evaluation
3. Operator precedence and parenthesis handling
4. support for operators: +, -, *, /, %, **

4. Input specifications

Input ID	Description	Example
IN01	Valid expression	1 + 2
IN02	Expression with operator precedence	3 + 4 * 2
IN03	Expression with parentheses	(1 + 2) * (3 + 4)
IN04	Expression with mismatched parentheses	1 + (2 + 3
IN05	Expression with invalid syntax	1 + * 2
IN06	Expression with divide by zero	1 / 0

5. Output specifications

Input ID	Expected Output
IN01	3
IN02	11

<Arithmetic Expression Evaluator>	Version: <1.0>
Test Case	Date: <12/12/24>
<document identifier>	

IN03	21
IN04	Mismatched parentheses error message
IN05	Invalid syntax error message
IN06	Divide by zero error message

6. Environmental needs

6.1.1 Hardware *(nothing particular for the arithmetic expression project)*

Specify the characteristics and configurations of the hardware required to execute this test

6.1.2 Software *(nothing particular for the arithmetic expression project)*

Specify the system and application software required to execute this test case. This may include system software such as operating systems, compilers, simulators, and test tools. In addition, the test item may interact with application software.

6.1.3 Other

N/A

7. Special procedural requirements

Describe any special constraints on the test procedures that execute this test case. These constraints may involve special set up, operator intervention, output determination procedures, and special wrap up.

8. Intercase dependencies

List the identifiers of test cases that must be executed prior to this test case. Summarize the nature of the dependencies.