
RAND Corporated

GUI Boolean Calculator

Test Cases

Version 1.0

GUI Boolean Calculator	Version: 1.0
Test Cases	Date: 05/02/2024
JTJSV-LFK-SPR-2024-348-005-001	

Test Case ID: TC01

Test Case Description: Verify that the calculator can handle unary operator !

Test Data: !T

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC02

Test Case Description: Verify that the calculator can handle & operator

Test Data: (T&F)

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC03

Test Case Description: Verify that the calculator can handle | operator

Test Data: (T|F)

Expected Results: True

Actual Results: True

Pass/Fail status: Pass

Test Case ID: TC04

Test Case Description: Verify that the calculator can handle multiple operators

Test Data: ! (T & T)

Expected Results: True

Actual Results: True

Pass/Fail status: Pass

Test Case ID: TC05

Test Case Description: Verify that the calculator can handle multiple expressions

Test Data: ((T|F)&(T&F))

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC06

Test Case Description: Verify that the calculator can handle NAND operators

Test Data: (F@T)|(T@F)

Expected Results: True

Actual Results: True

Pass/Fail status: Pass

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Test Case ID: TC07

Test Case Description: Verify that the calculator can handle XOR operators

Test Data: (T\$T)&F

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC08

Test Case Description: Verify that the calculator can handle complex bracket expressions

Test Data: (((!(T\$F))&(T@T))((F|T)&(T\$T)))

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC09

Test Case Description: Verify that the calculator can handle extra but not wrong brackets

Test Data: ((((((((((((((T|F))))))))))))))

Expected Results: True

Actual Results: True

Pass/Fail status: Pass

Test Case ID: TC10

Test Case Description: Verify that the calculator can recognize incomplete bracket expressions

Test Data: (T|F

Expected Results: Error: Mismatched Brackets

Actual Results: Error: Mismatched parentheses or incomplete expression

Pass/Fail status: Pass

Test Case ID: TC11

Test Case Description: Verify that the calculator can multiple & symbols

Test Data: T&&F

Expected Results: Error: Two consecutive AND operator

Actual Results: Error: Misplaced operator '&'

Pass/Fail status: Pass

Test Case ID: TC12

Test Case Description: Verify that the calculator can recognize unknown symbols

Test Data: (T?F)|(T&F)

Expected Results: Error: Unrecognized Symbol

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Actual Results: Error: Unknown character '?'

Pass/Fail status: Pass

Test Case ID: TC13

Test Case Description: Verify that the calculator obeys the precedence of operators

Test Data: !F|!T

Expected Results: True

Actual Results: True

Pass/Fail status: Pass

Test Case ID: TC14

Test Case Description: Verify that the calculator can arbitrary complex expressions

Test Data: ((F@T)\$(T|(F&F)))&(T&(T@(!T)))

Expected Results: False

Actual Results: False

Pass/Fail status: Pass

Test Case ID: TC15

Test Case Description: Verify that the calculator can handle the absence of input symbols

Test Data: ((()))

Expected Results: Error: No available operand

Actual Results: Error: Mismatched or misplaced ')'

Pass/Fail status: Fail