<Boolean Logic Simulator>

<The Booleanators>

Version <1.0>

Test Cases

Revision History

Date	Version	Description	Author
23/04/2024	x1.0	Creation of Test Cases	Cole Cooper

Table of Contents

Test Case ID	Test Case Description	Test Data	Expected Results	Actual Results	Pass/ Fail Status
TC01	Tests the OR and AND operators with true and false operands.	(T & F) | (F & T)	False	False	Pass
TC02	Tests the OR and XOR operators with true and false operands.	(T | T) $ F	True	True	Pass
TC03	Evaluates the NOT operator applied to the result of an AND operation between two false operands	! (F & F)	True	True	Pass
TC04	Tests the OR operator combining the results of two AND operations: one with two true operands and the other with two false operands	(T & T) | (F & F)	True	True	Pass
TC05	Tests the AND operator applied between the negations of true and false values. It evaluates how negating both True and False impacts the result when combined with an AND operation.	(!T) & (!F)	False	False	Pass

TC06	Evaluates the OR operator applied to the negations of false and true values. This test checks the logical inclusiveness when combining the negated values True and False.	((!F) | (!T))	True	True	Pass
TC07	Tests the combination of XOR and OR operators with true and false operands, followed by an AND operation between the results.	(T $ F) & (F | T)	True	True	Pass
TC08	Evaluates the XOR operator applied to the negations of true and false values. This test assesses the behavior when exclusively combining False and True.	(!T) $ (!F)	True	True	Pass
TC09	Evaluates the XOR operator between the result of an OR operation with true and false operands and the negation of a false operand.	(T | F) $ (!F)	False	False	Pass
TC10	Evaluates the OR operator combining the negation of a true value and the result of an AND operation between true and false values	(!T) | (T & F)	False	False	Pass
TC11	Tests the AND operator applied to the negation of a false value and the result	(!F) & (T | F)	True	True	Pass

	of an OR operation between true and false operands				
TC12	Evaluates the OR operator applied between the result of an AND operation with true and false operands and the negation of a false value.	(T & F) | (!F)	True	True	Pass
TC13	Tests the XOR operator applied to the negation of a true value and the result of an AND operation between false and true operands.	(!T) $ (F & T)	False	False	Pass
TC14	Tests the AND operator applied between the results of two OR operations, both with identical operands: true with true, and false with false.	(T | T) & (F | F)	False	False	Pass
TC15	Evaluates the AND operator applied to the negations of true and false values. T	((!T) & (!F))	False	False	Pass
TC16	Evaluates the OR operator applied to the results of two XOR operations, each combining a true and a false operand.	(F $ T) | (T $ F)	True	True	Pass
TC17	Tests the XOR operator between the result of an AND operation with true and false operands and the negation of a false value.	(T & F) $ (!F)	True	True	Pass
TC18	Evaluates the OR	(!T) | (!F)	True	True	Pass

	operator applied to the negations of true and false values.				
TC19	Tests the AND operator applied between the negation of a false value and the result of an AND operation between true and false operands.	(!F) & (T & F)	False	False	Pass
TC20	Evaluates the XOR operator between the result of an OR operation with true and false operands and a false value.	(T | F) $ F	True	True	Pass
TC21	Tests a complex combination of logical operations.	(((((F | T) & T) | (F & (F | T))) @ (T @ F)) $ (! (T | T)))	False	False	Pass
TC22	Tests a complex combination of logical operations.	((F@(T&F)) $ ((!T) | (T & T))) | ((F $ (!F)) & (T | (F & T)))	True	True	Pass
TC23	Tests a complex combination of logical operations.	((T & F) | ((T & F) $ ((!T) & T))) & ((F & T) @ ((!F) & T))	False	False	Pass
TC24	Tests a complex combination of logical operations.	((F & F) | ((F & F) $ ((!F) & F))) & ((T & T) @ ((!F) | T))	False	False	Pass
TC25	Tests a complex combination of logical operations.	((F | T) @ ((!F) | (T & T))) | ((T & F) $ ((!T) | T))	True	True	Pass