Boolean Logic| Revision Mat

AND

A	B	A AND B
0	0	0
0	1	0
1	0	0
1	1	1

OR

A	B	A OR B
0	0	0
0	1	1
1	0	1
1	1	1

Brackets

NOT

XOR

AND

OR

NOT

C	NOT C
0	1
1	0

XOR

A	B	A XOR B
0	0	0
0	1	1
1	0	1
1	1	0

Commutative Laws

In Mathematics 4 x 2 is the same as 2 x 4. The name in Boolean algebra given to this concept is known as Commutative Laws. These laws state the order of the operands in a statement don't matter.

Associate Law

In Mathematics (5 x 2) x 4 is the same as 5 x (2 x 4). The name given to this law in Boolean Algebra is known as Associate Law. This law states that when all operators are of the same type, it doesn't matter in what order they're operated in.

Computers at the lowest level of Computer Science use 1s and 0s to represent data. These 1s and 0s can be used to represent statements which produce either a true or false value. Propositional logic can be used to manipulate these statements further by following mathematical rules.

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Boolean Logic | Glossary

Commutative Law

- AND Form - A. B = B . A
- OR Form - A + B = B + A

Associate Law

- AND Form - (A. B) . C = A . (B . C)
- OR Form - (A + B) + C = A + (B + C)

Distributive Law

- AND Form - (A+B)+ C = (A+C).(B+C)
- OR Form - (A + B).C = (A . C) + (B . C)

Identity Law

- AND Form - A . 1 = A
- OR Form - A + 0 = A

Zero and One Law

- AND Form - A . 0 = 0
- OR Form - A + 1 = 1

Inverse Law

- AND Form - A . A' = 0
- OR Form - A + A' = 1

Idempotent Law

- AND Form - A . A = A
- OR Form - A + A = A

Absorption Law

- AND Form - A(A+B) = A
- OR Form - A + A. B = A

A + A' B = A+B

Double Complement Law

- AND Form - $\overline{\overline{C}} = C$