

Boolean Logic

Computing

The logic gates, their truth tables, and De Morgan's laws.

For inputs A and B.

A · B	AND · OR	XOR · NAND
0 · 0	0 · 0	0 · 1
0 · 1	0 · 1	1 · 1
1 · 0	0 · 1	1 · 1
1 · 1	1 · 1	0 · 0

De Morgan: $\text{NOT}(A \text{ AND } B) = \text{NOT } A \text{ OR } \text{NOT } B$. $\text{NOT}(A \text{ OR } B) = \text{NOT } A \text{ AND } \text{NOT } B$. Negate both parts and flip the operator.