

All the Logical Operations

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| A | B | | | 0 False | $\neg(A \vee B)$ A NOR B | | $\neg A$ NOT A |
|-----|-----|--|--|------------|---------------------------------|---|---------------------|
| 0 | 0 | | | 0 | 1 | 0 | 1 |
| 0 | 1 | | | 0 | 0 | 1 | 1 |
| 1 | 0 | | | 0 | 0 | 0 | 0 |
| 1 | 1 | | | 0 | 0 | 0 | 0 |

| A | B | | | | $\neg B$ NOT B | $A \oplus B$ A XOR B | $\neg(A \wedge B)$ A NAND B |
|-----|-----|--|--|---|---------------------|-----------------------------|------------------------------------|
| 0 | 0 | | | 0 | 1 | 0 | 1 |
| 0 | 1 | | | 0 | 0 | 1 | 1 |
| 1 | 0 | | | 1 | 1 | 1 | 1 |
| 1 | 1 | | | 0 | 0 | 0 | 0 |

| A | B | | | $A \wedge B$ A AND B | $A \Leftrightarrow B$ A if and only if B | B B | $A \Rightarrow B, B \Leftarrow A$ A implies B , if A then B |
|-----|-----|--|--|-----------------------------|---|------------|--|
| 0 | 0 | | | 0 | 1 | 0 | 1 |
| 0 | 1 | | | 0 | 0 | 1 | 1 |
| 1 | 0 | | | 0 | 0 | 0 | 0 |
| 1 | 1 | | | 1 | 1 | 1 | 1 |

| A | B | | | A A | $B \Rightarrow A, A \Leftarrow B$ B implies A , if B then A | $A \vee B$ A OR B | 1 True |
|-----|-----|--|--|------------|--|--------------------------|-----------|
| 0 | 0 | | | 0 | 1 | 0 | 1 |
| 0 | 1 | | | 0 | 0 | 1 | 1 |
| 1 | 0 | | | 1 | 1 | 1 | 1 |
| 1 | 1 | | | 1 | 1 | 1 | 1 |