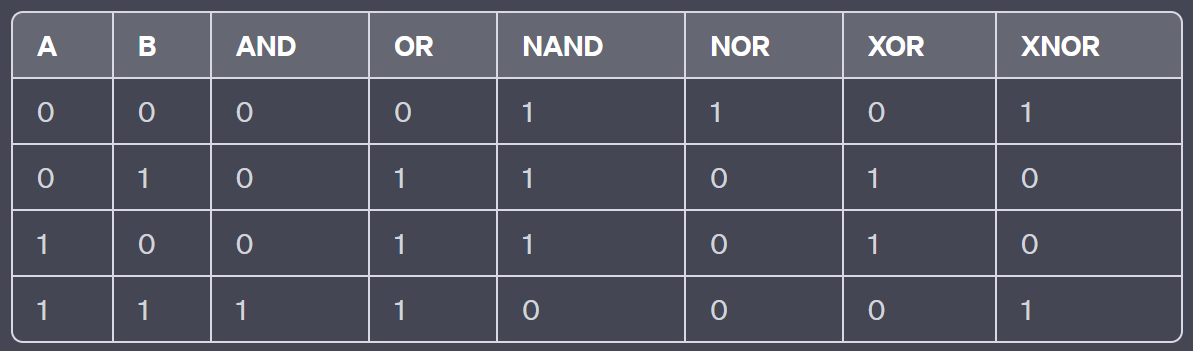
# Electronics

## Truth table for all operations

### Exclusive OR

Returns true if exactly one of the operands is true.

A XOR B=(A AND NOT B) OR (NOT A AND B)



Used for Parity checking, if number of 1 is odd, return 1, odd parity. Else, return 0, even parity.

Swap using ExOR.

1: x = x xor y

2: y = x xor y

3: x = x xor y

On line 1 we combine x and y (using XOR) to get this “hybrid” and we store it back in x. XOR is a great way to save information, because you can remove it by doing an XOR again.

So, this is exactly what we do on line 2. We XOR the hybrid with y, which cancels out all the y information, leaving us only with x. We save this result back into y, so now they have swapped.

On the last line, x still has the hybrid value. We XOR it yet again with y (now with x’s original value) to remove all traces of x out of the hybrid. This leaves us with y, and the swap is complete!