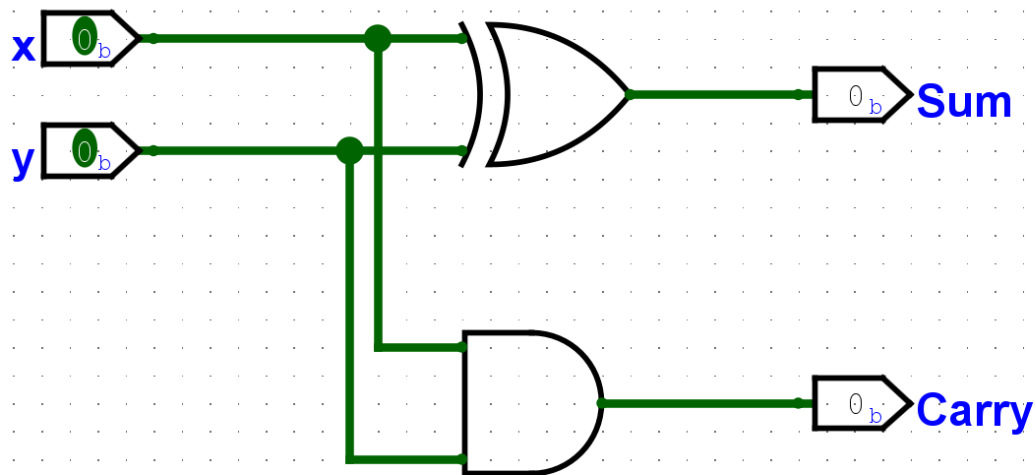# HALF ADDER

x 0_b

y 0_b

0_b Sum

0_b Carry

The half is a simple way to add binary numbers together. The inputs are X and Y (which represent two binary numbers). The Sum is the result of the two binary numbers being added, and the carry is when the number produces a carry out. The issue with this is you can only add two single bit binary numbers together, if you try to increase the data bits and try adding two numbers, you'll get an issue with the carry not being properly represented.

Half Adder Truth Table

x	y	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0