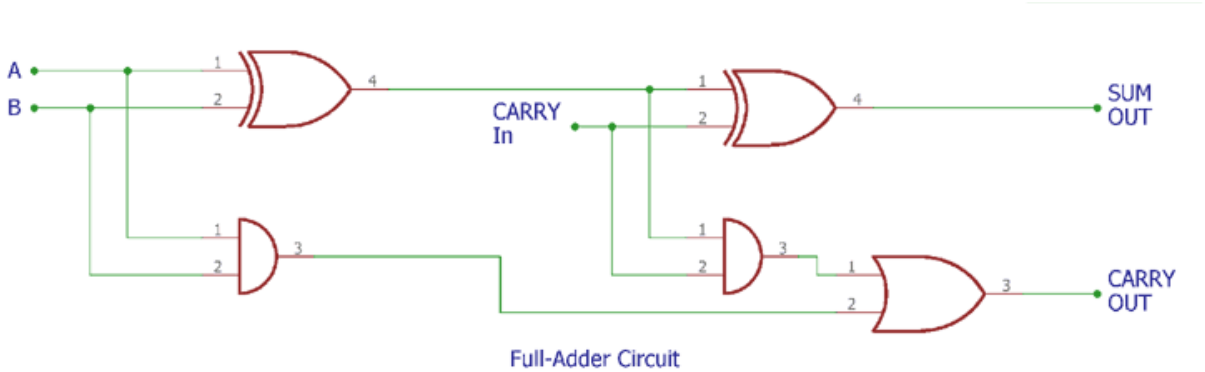
Full Adder Logic and Logic Gate Implementation

Complete the table below. Fill in the corresponding columns for A+B+C_{in}, C_{out} and S_{out}, The ("sum out' and "carry out" bits, respectively). It may help to write the answer in base-10 (decimal) before writing in binary.

A	B	C_{in}	$A+B+C_{in}$	C_{out}	S_{out}
0	0	0			
0	0	1			
0	1	0			
0	1	1			
1	0	0			
1	0	1			
1	1	0			
1	1	1			

Show that the full adder circuit below implements the logic table you filled out above. (At least do a few test cases.) It may be helpful to label each gate first with the logic it implements.



Full-Adder Circuit