

HW2 Write-Up

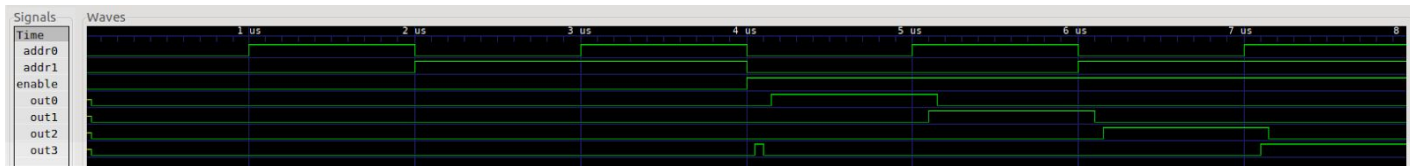
Write-up with the final results and waveforms for the 2-bit decoder, a 4 input multiplexer, and the 1-bit full adder

2-bit decoder with enable (2+1 inputs, 4 outputs)

Results

En	A0	A1	00	01	02	03	Expected Output
0	0	0	0	0	0	0	All false
0	1	0	0	0	0	0	All false
0	0	1	0	0	0	0	All false
0	1	1	0	0	0	0	All false
1	0	0	1	0	0	0	00 Only
1	1	0	0	1	0	0	01 Only
1	0	1	0	0	1	0	02 Only
1	1	1	0	0	0	1	03 Only

Waveform



4:1 (four input multiplexer)

Results

A0	A1	in0	in1	in2	in3	Out	Expected Output
0	0	0	x	x	x	0	0
1	0	x	0	x	x	0	0
0	1	x	x	0	x	0	0
1	1	x	x	x	0	0	0
0	0	1	x	x	x	1	1
1	0	x	1	x	x	1	1
0	1	x	x	1	x	1	1
1	1	x	x	x	1	1	1

Waveform



1-bit full adder

Results

A	B	Cin	Sum	Cout	Expected	Output
0	0	0	0	0	0	0
0	0	1	1	0	1	0
0	1	0	1	0	1	0
0	1	1	0	1	0	1
1	0	0	1	0	1	0
1	0	1	0	1	0	1
1	1	0	0	1	0	1
1	1	1	1	1	1	1

Waveform

