

Gates and Boolean Logic

We have been hitting on this for some time. Let's get serious about some gates and logic.

Last time we talked about a one-hot encoding. We will be using (later in the year) a one-hot encoding in the MARIE instruction set.

Instruction 0x8000 is the Jump-Compare and Misc instruction. The 2 bits after the 8 determine how the compare is done.

0x8000 = 0b_1000_0000_0000_0000

0x8400 = 0b_1000_0100_0000_0000

0x8800 = 0b_1000_1000_0000_0000

Let's one-hot encode this 2 bit region.

Bits In	d0	d1	d2	Oth
00	1	0	0	0
01	0	1	0	0
10	0	0	1	0
11	0	0	0	1

This matches with a 74ls155 dual 2 to 4 bit decoder.

Show Data Sheet.

System Overview.

Using Memory to implement a "logic" circuit.