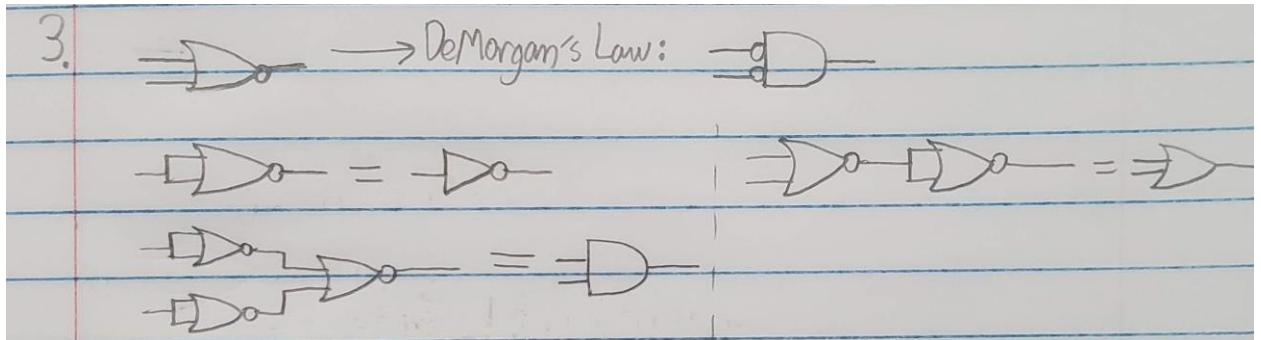


1. Combinational circuits determine the output given the current input, whereas sequential circuits' output depends on the current input and the previous output. Sequential circuits are capable of store bits. Combinatorial circuits do not utilize states (since they do not save data/bits), whereas sequential circuits save bits and hence depend on the current state to compute the next state. **This is a bit ambiguous imo. Also, explicitly, allow for the fact that sequential circuits can also depend on the current state**
2. Binary systems represent digital systems well, since digital systems use high and low (true and false, 1 and 0) signals to compute. Binary is easy to implement on a computer that is digital (only on and off).
3. <Image>



4. Sign magnitude requires a dedicated sign bit, and because of this it is also possible to have a +/- zero (same as the one's complement). The calculations performed using sign magnitude are also not as simple as those with the two's complement. **2s complement is also "fire and forget".**
5. Overflow occurs when adding two positive numbers or two negative numbers and the result becomes the opposite sign. For 1's and 2's complement, this is shown by the most significant bit becoming inverted (instead of adding two negative numbers resulting in a 1 in the MSB, there is a 0, and vice versa).
6. <Image>

