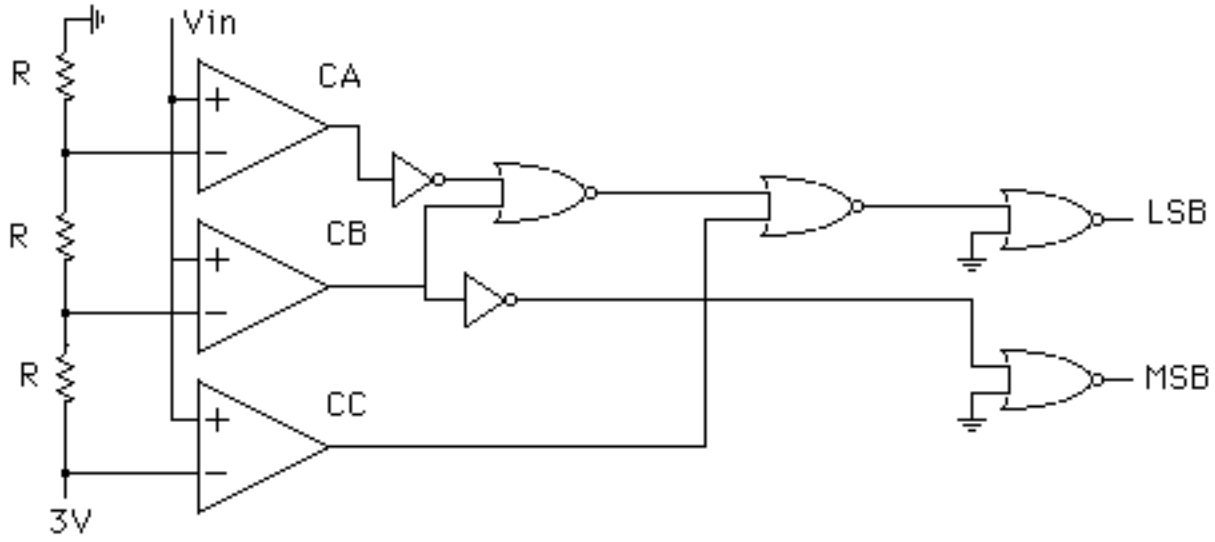
Physics 517/617 HOMEWORK VII
Due August 22

1) Simpson: problem 3, page 595.
2) Convert the following binary numbers to decimal:
   a) 1110101.0110
   b) 11.01010101...repeats
3) Simpson: problem 10, page 595.
4) Simpson: problem 12, page 596. Note: there is a typo in the circuit drawing for this problem. The D_2 near D_1 *should* read D_0.
5) Simpson: problem 4, page 665.
6) Simpson: problem 8, page 666.
7) The following circuit can be used to convert an input analog voltage to a digital output voltage. C_A, C_B, and C_C are comparators which give a logic level 1 if the positive input (+) is greater than the negative input. The outputs, LSB and MSB stand for least significant bit and most significant bit respectively. Complete the following truth table. You will have a chance to build something similar to this in lab.

V_{input}	C_A	C_B	C_C	LSB	MSB
0.5 Volt					
1.5 V					
2.3 V					
4.0 V					



Physics 617:
1) Simpson: problem 10, page 666.
2) Simpson: problem 22, page 667.