

**UNC Charlotte, Department of Electrical and Computer Engineering
ECGR 2181, Fall 2008, Homework #4
Due: 9/24/2008, at the beginning of class (100 points)**

Show all of your work!!!!

1. How long did this assignment take you? (Answer truthfully!)
2. Design a 16-1 multiplexer using four 4-1 multiplexers and any additional logic gates needed.
3. Consider the 7 segment display on page 66 in your book. This circuit does not include the hexadecimal characters A, b, C, d, E, F (the caps/lower case is used to best replicate the segments that will be displayed).
 - a) Change the last six lines in the truth table to include hexadecimal characters.
 - b) Write the Boolean equation for segment g.
 - c) Minimize the equation from part b.
 - d) Create a circuit of logic gates to solve the equation from part c.