UNC Charlotte, Department of Electrical and Computer Engineering
ECGR 4101/5101, Fall 2014, Homework #2 (20 points)

Assignment should be turned in as a hardcopy during class. Typing is suggested.

1. Write the C code to read the data on port D, bits 4 through 7 and write the data you just read to port D, bits 0 through 3. (1 point)
2. Is it good design to connect a motor directly to the output pin of a microcontroller? Why or why not? (2 points)
3. How many volts per ADC step are in a system with an ADC resolution of 12 bits and a reference voltage of 3.3 volts? (2 points)
4. An analog input has a voltage of 1.999. What will the ADC return if it has 10 bits of resolution and a reference voltage of 5.0 volts? Represent the value in hex. (2 points)
5. Examine Figure 2.9 in the book. Write a C function to correctly identify which ONE button has been pressed. The function should not need an input argument, but return the switch number (2 to 10) in a return argument. (10 points)
6. In problem 5, can you detect multiple switch presses? Why or why not? (3 points).