UNC Charlotte, Department of Electrical and Computer Engineering
ECGR 4101/5101, Fall 2014, Homework #3 (20 points)

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

1. How much time did this homework assignment take? (be honest!) (1 point)

2. A) What is the number of address bits needed to address any byte in a memory that contains 2,097,152 bytes? (1 point)
   B) Assume the memory from part A is actually a microcontroller's memory space. 64K is allocated at the top (starting at address 0) for RAM, followed by 32K of the special function registers, followed by 8K of EEPROM; 128K of flash is located all the way at the end of the memory space. Show a picture of what this would look like. (4 point).

3. On Moodle, in the homework section for the class, is a short article (5 pages) on the Internet of Things. Read this paper. In a total of six to ten lines of correct English, write a single paragraph that answer these questions:

   - What is the main goal of the author of this white paper? (What is he really trying to convey?) (3 points)

   - Has the author provided enough technical information to be useful to an IOT device designer? Justify your answer. (3 points)

4. Consider the switches configured below. Write a C code function called `checkswitches` to interrogate the switches and print **"Switch n pressed"** if it is being pressed. Print **"No switches printed"** if none are being pressed. Ensure that ONLY ONE message is printed, with the priority being SW1, then SW2, then SW3. (8 points)

