**ELTN 117 – Homework #7: Programming assignment using Digital outputs**

1. Write and test a program that does the following:

**\*\*\* NOTE: BEFORE writing the program WRITE out the sequence in pseudocode \*\*\***

Example: Configure serial port

Write prompt to monitor

Get user input

Etc….

1. Configure the serial port for 9600 baud, and display the message: *TONE generator V1.0* one time at the top of the serial monitor screen.
2. Prompt the user for selecting four options as follows:
   1. C
   2. D
   3. E
   4. F
   5. G
3. Display the selection chosen on the serial monitor – example: *Tone chosen: C*
4. Based on this input value, play the tone for that note for 1 second.
5. Go back to B.
6. Use Switch / Case to play each note.
7. Draw a simple schematic showing the connections to the components.
8. Create a simple Top-Down diagram that shows the different levels of functions.
9. Include comments for the heading of the program and in the program where appropriate.

**Main digital output commands:**

Extra Credit options:

1. Light an LED showing which tone is played, you can use different colors for each note
2. Display the note being played along with the color on the LCD display
3. Use functions to write information to the serial monitor, get user input, play the tones, etc…

The main loop should have only function calls.