ECE 4175
Project Six
Displayable Characters

Complete by:
Wednesday February 15th for an A+

References:
Chapter 7
rpg.asm   Subroutine from piclab website
Bargraph.asm   Another one

Overview

For this project, your code for Project Five should continue to work. Now however, if the pot is turned down to the point where the stepping rate would be 0 steps/second, switch the mode of operation to display the LCD's displayable characters on the LCD itself. If the pot is turned CW to the point where the stepping rate would no longer be 0 steps/second, then revert to the execution of the Project Five code.

Displayable Character Mode

Use the RPG to select which column of the ASCII table to display. Display this number as a single hex character (0-F) on the PC monitor, repeatedly overwriting the value every tenth of a second. If the pushbutton is pushed while in this mode, reset the column choice to 4. As you turn the RPG, do not increment past F or decrement past 0.

Every tenth of a second, update the display of the sixteen characters for that column of the ASCII table. Here is what the display should look like if the PC is displaying a 3.

0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?

To generate the Nth character, you are to simply send to the display a byte formed with the column number as the upper nibble and with N as the lower nibble.

Hint

Rather than form a display string and then use the **DisplayV** subroutine to send out the characters for each row, I envision that a scheme like the **Bargraph** subroutine on page 98 can be used more effectively to send out each of the bytes needed.