Project Sequence ( LCD )

In order to get the LCD out of the box and interfaced into a system can be broken down into three parts. First, research confirming that the HD44780 protocol could be implemented physically to the PIC16F887; given the number of ports and by choosing the 5V model this was accomplished. Immediately the physical connections were made and the supporting circuits were constructed. Secondly, the timing constraints and initialization sequence needed to be followed. The use of both lines on the screen was selected as needed by the mission statement of the project. The only resource used in this step was the data sheet specified from the supplier. Upon completing the initialization sequence, the concept of sending data to the LCD and commands to the LCD was understood. At this point, drivers for the screen could be drafted in a modular fashion allowing for more convenient programming methods.

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| Hex Value | Delay Time | units |
| 0xFF | 196.3 | ms |
| 0xFA | 192.4 | ms |
| 0xAA | 130.6 | ms |
| 0x77 | 91.2 | ms |
| 0x19 | 18.5 | ms |
| 0x17 | 17 | ms |
| 0x15 | 15.4 | ms |
| 0x14 | 14.6 | ms |
| 0x09 | 6.1 | ms |
| 0x05 | 3.01 | ms |
| 0x03 | 1.5 | ms |
| 0x02 | 777 | us |
| 0x01 | 4 | us |