

The `lcd` library takes either characters or strings and displays them on supported LCDs over I2C. It also supports scrolling either to the right-hand side or the left-hand side.

This library will work on any PIC24F processor with an LCD using the ST7032 controller with I2C. There are no external dependencies that are not included with the XC16 implementation of the GCC.

The function `lcd_init` is only to be run at startup. It sends prerequisite I2C data to the LCD to allow display after being run. Contrast can be changed with a compiler definition, defaulting to 0.

The function `lcd_setCursor` takes two integers `x` and `y` (`y` being between 0 and 1 with `x` being between 0 and 7, both inclusive) as arguments and sets the initial position of the characters or strings to the row `x` and column `y` with an I2C command.

The function `lcd_printChar` takes a character and prints it on the LCD with an I2C command. This is different from the not directly called `lcd_cmd` as the RS bit is set.

The function `lcd_printStr` takes a string (represented as an array of characters) and prints it on the LCD with a similar I2C command from `lcd_printChar`.

The scrolling functions `left` and `right` take no arguments and either scroll text to the left or the right.

A basic implementation would be to run `lcd_setCursor(0,0)` and `lcd_printStr("TEST")` with the function `left` written in an infinite loop with an added delay (also implemented in the library, approximately in cycles). This will send the LCD I2C commands to write the word "TEST" on row and column 0 (the top left) of the LCD. After the delay period, the second character of "TEST" is moved to (0,0), where this will repeat forever. The "TEST" string will also loop back around when the left-shift underflows.