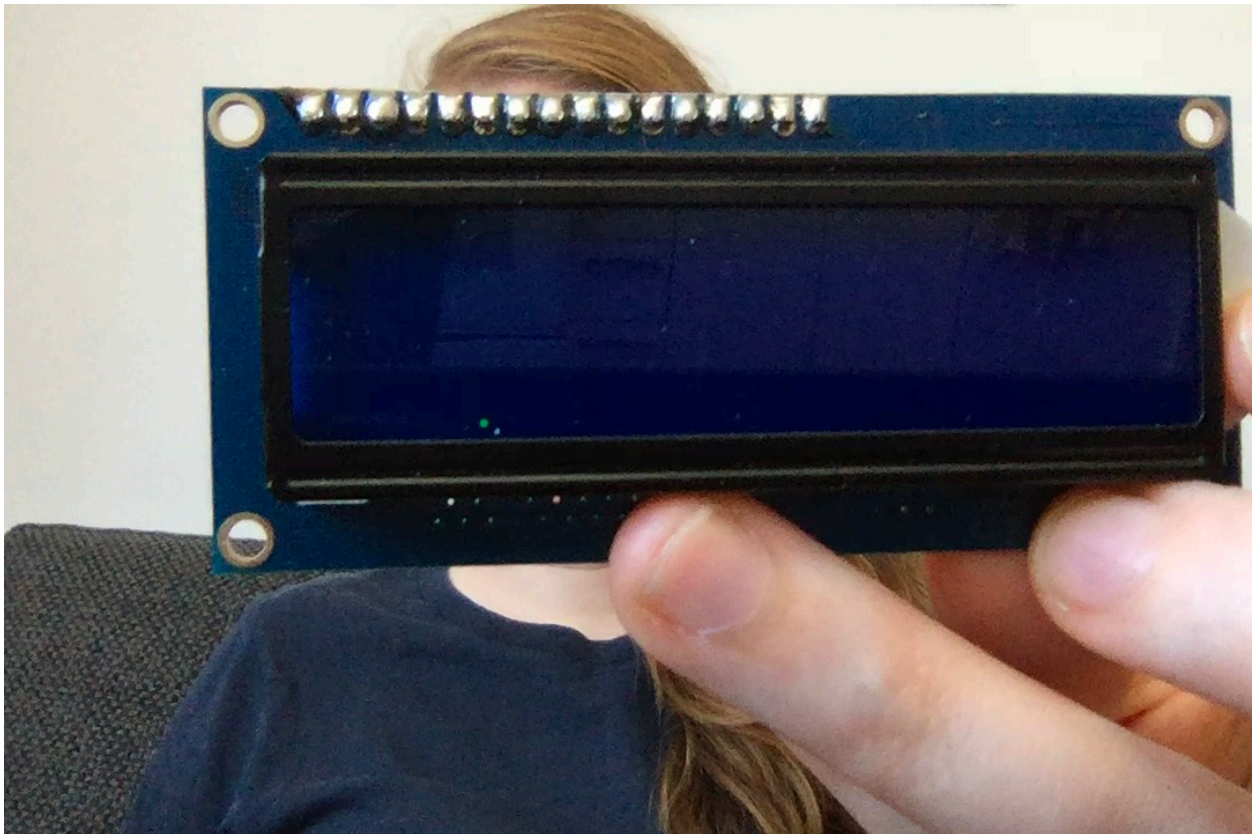


Digital Timer

Include your responses to the bold questions below. Include snippets of code that explain what you did. Deliverables are due next Tuesday. Post your lab reports as README.md pages on your GitHub, and post a link to that on your main class hub page.

Part A. Solder your LCD panel

****Take a picture of your soldered panel and add it here!****



Part B. Writing to the LCD

****a. What voltage level do you need to power your display?****

5V

****b. What voltage level do you need to power the display backlight?****

3V

****c. What was one mistake you made when wiring up the display?
How did you fix it?****

Soldering - Initially I missed the 1st pin on the lcd display and went back and fixed it.

My LCD display was bad. I went through many tests to determine this.

Multimeter test pin 15 to ground - 3.3

pin 2 to ground 4.95

pin 5 to ground - 0

The bread board is working

Serial monitor test on the potentiometer - examples - graph. Tested while sweeping the potentiometer from 0 to 890. The potentiometer is working.

Test the breadboard by using a different breadboard for the lcd.

Tested the rails by removing everything from the rails and using the pins in the center of the breadboard instead. Both were working.

My lcd did not work on someone else's board.

A good lcd did not work on my board. There are potentially two problems here.

My arduino did work on someone else's board with a countdown not flashing

Natalie's display did work on my circuit after hitting the reset button.

My display is bad! I fixed it by using Natalie's lcd display.

****d. What line of code do you need to change to make it flash your name instead of "Hello World"?****

I changed the line from `lcd.print("hello world!")` to `lcd.print("Leanna Mulvihill")`.

****e. Include a copy of your Lowly Multimeter code in your lab write-up.****

See attached.

Part C. Using a time-based digital sensor

****Upload a video of your working rotary encoder here.****

<https://youtu.be/Bm0xq9NANJA>

Part D. Make your Arduino sing!

****a. How would you change the code to make the song play twice as fast?****

I changed the noteDuration from 1000 to 500.

****b. What song is playing?****

Star Wars!

Part E. Make your own timer

****a. Make a short video showing how your timer works, and what happens when time is up!****

<https://youtu.be/IDB3gaDD8FM>

The green LED lights up for 1 second every 60 seconds to help you time brushing your teeth.

****b. Post a link to the completed lab report your class hub GitHub repo.****