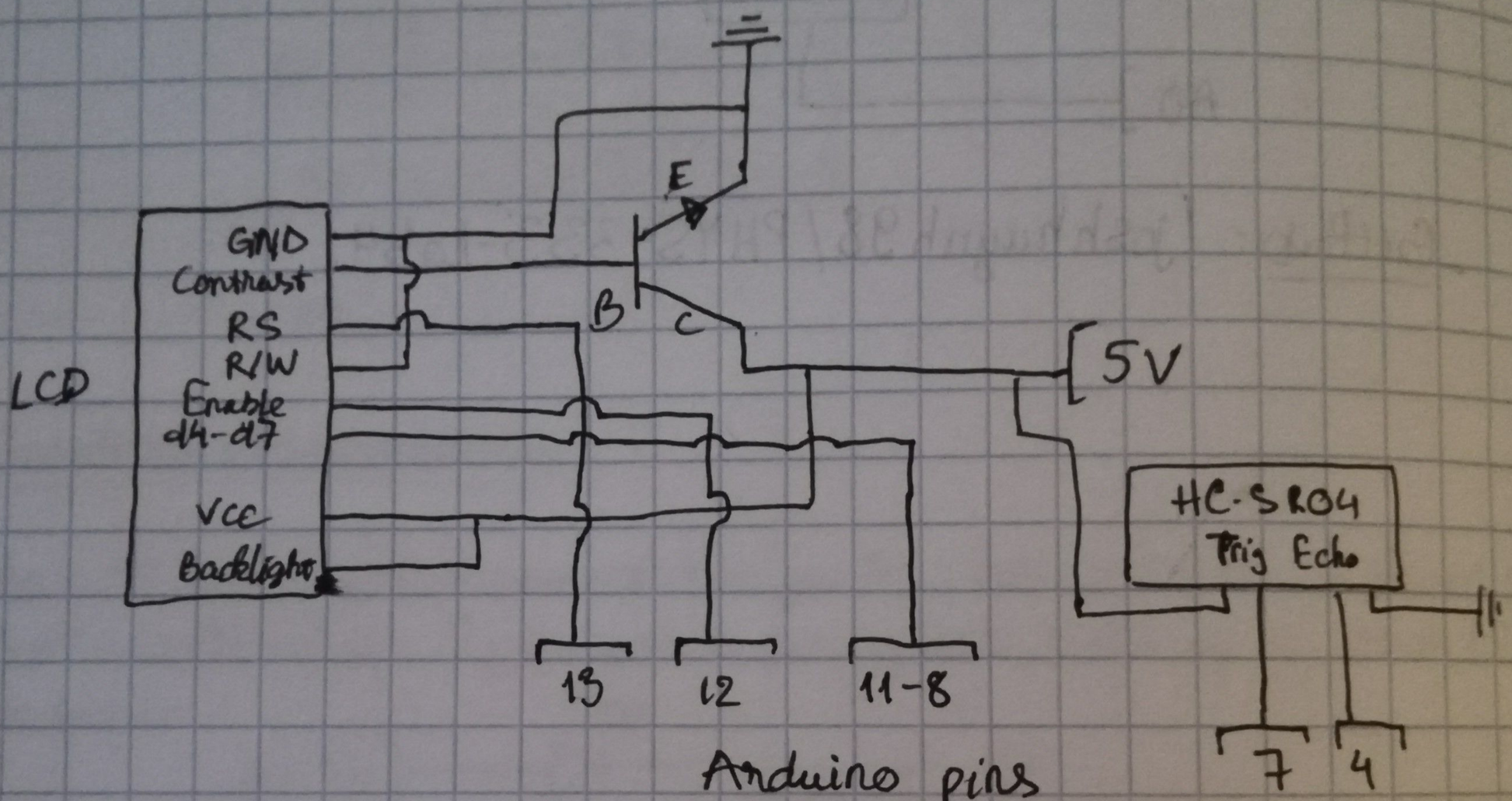
LAB5 | Final 4/21/2020

.HC-SR04 distance sensor:

- Objective: utilize the HC-SR04 sensor and display distance, velocity on a 16 x 2 display

- Circuit design:



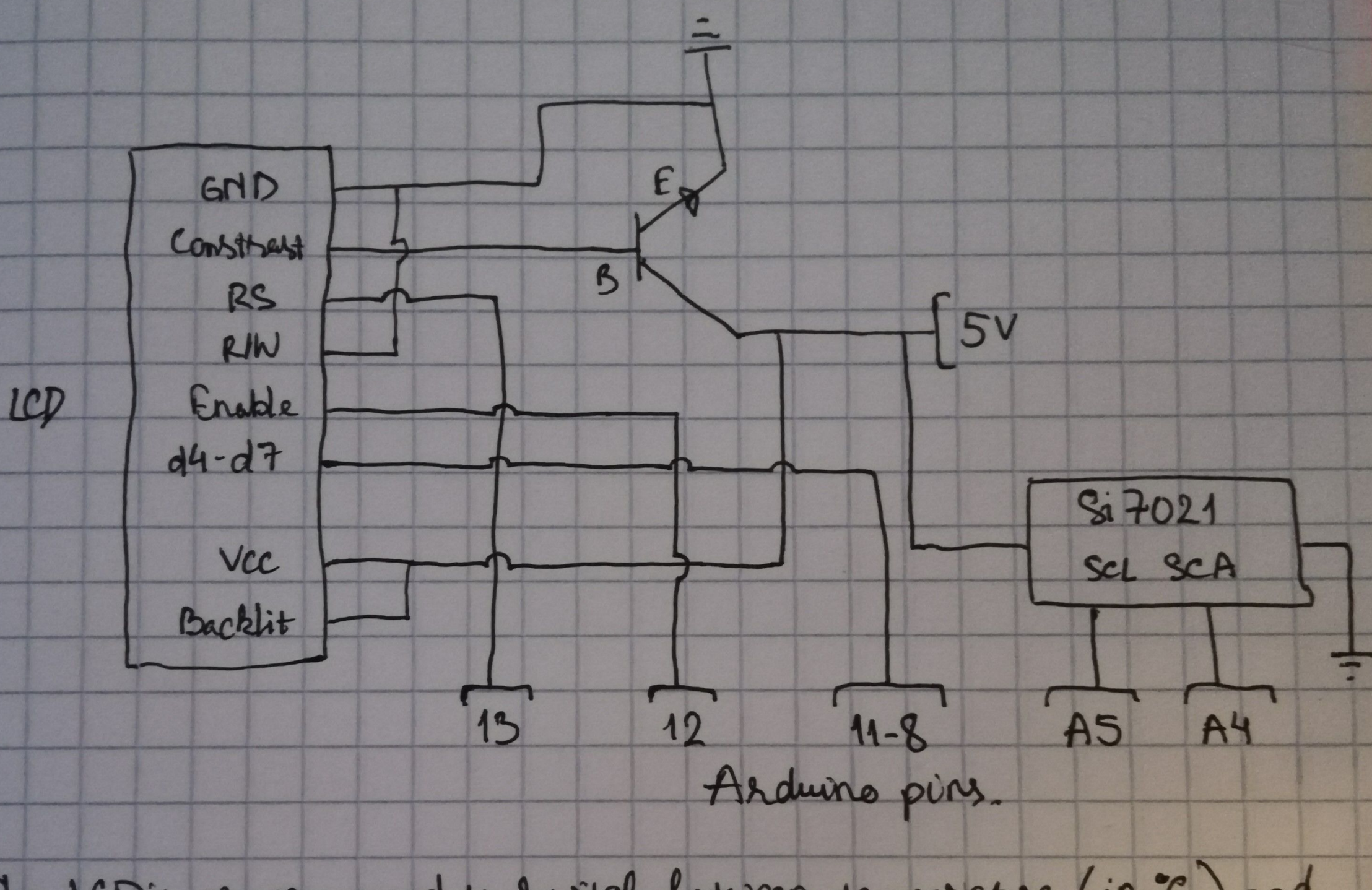
- The arduino measures the distance every 200ms then averages out for the distance info every 1 second.
- Velocity is measured in 1 s interval as well: $\frac{\text{new distance} - \text{old distance}}{1\text{s}}$.
- Distance output in meters, velocity in meters/s.

- A parametric mapping of my living room is taken by rotating the sensor 360° in 44 seconds.
  - Data is output to Excel and into a radial graph.
- Code & Excel sheets and demo on Github repository.

4/30/2020

- Si7021 temp/humidity sensor:
  - Objective: utilize the Si7021 sesor to output to a 16x2 LCD info about the arrent temperature & humidity as well as min & max values.

- Circuit:



- The LCD is programmed to switch between temperature (in °C) and humidity display every 4 seconds
- Displays current, as well as min/max values since power on for both temp & humidity.
- The sensor is put near a PC to moniton the temperature during a normal session for about 20 minutes: 10 mins playing games & 10 mins surfing the web
  - Data is put into Exel & graph
- Code & Excel sheets and demo on Github repository.

- Github: /joshhuynh98/PHYS-333-Lab5