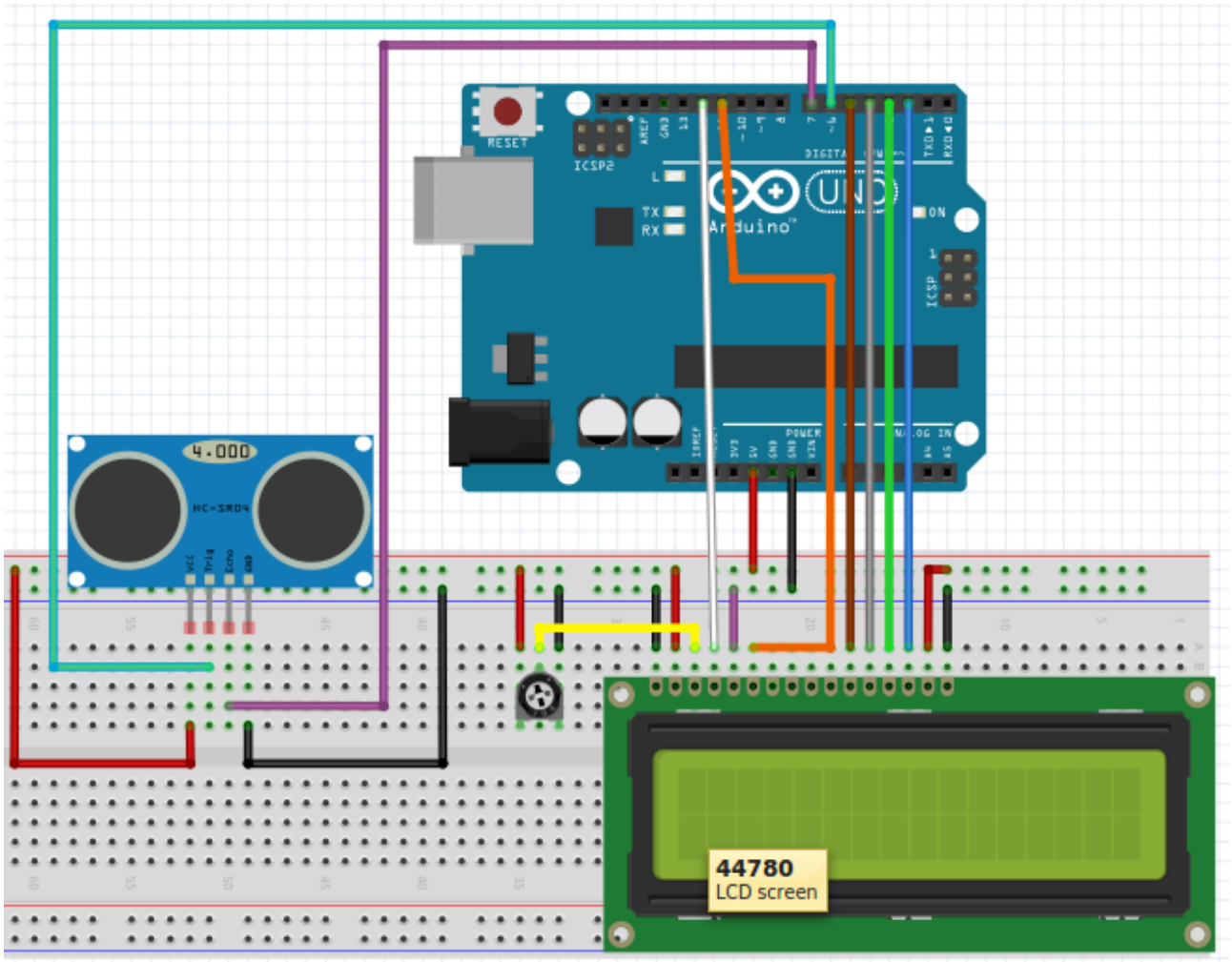
Elex 131 - Lab 9
HCSR04 Ultrasonics Transducer

Part1:

Wire the following circuit.



Part2:

Write a program to produce a 10 microsecond pulse on the trigger pin of the HCSR04 and read the reflected pulsewidth back in on the echo pin.
Display the resulting distance on the top line of the LCD.
Use the bottom line of the display to show a distance 'bar-graph'. The closer someone is, the more bars are to be displayed.

You should look at **pulseIn** and **delayMicroseconds**.

Use a seperate functions to:

generate the pulse and get the echo
calculate the distance
generate the 'bar-graph'
display the data on the LCD

No global variables are allowed.

Submit to the dropbox Lab9-10 folder by the start of lab Week11:

- **your appropriately commented program from part2**
- **a picture of your LCD output if possible**

Be prepared to demo your lab in lab Week11