

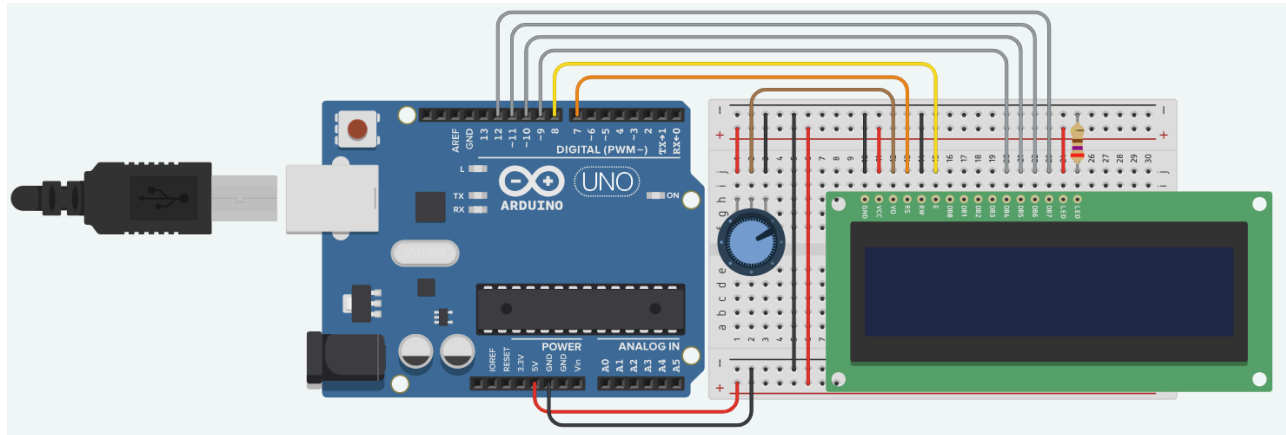
COMP1045 Lab 8- LCD Screen

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Circuit diagram: Please build the following circuit.



Level 1: Copy and paste the following code to test your circuit.

```
#include <LiquidCrystal.h>
//Initialise the Serial LCD.
LiquidCrystal lcd( 12,11,5,4,3,2); //These pin numbers are hard coded in on
the serial backpack board.

void setup()
{
  lcd.begin(16,2); //Initialize the LCD.
}

void loop(){ lcd.clear();
  lcd.setCursor(0,0); //goto first column and first line (0,0)
  lcd.print("321"); //Print at cursor Location
  lcd.setCursor(0,1); //goto first column and second line
  lcd.print("Maker"); //Print at cursor Location
  delay(1000);
```

Level 2: Write a program that prints your name and have it shift your name back and forth across the LCD. It should move to the right on the top row, stop at the edge of the screen, then come back in on the bottom row moving left until the edge of the screen then repeats. (See online tutorial video for example)

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup() {
    lcd.begin(16, 2); // Set up the LCD's number of columns and rows.
}

void loop() {
    // Variables to keep track of the text position
    int lengthOfName = 7; // Length of the name "Santiago"
    int maxPosition = 16 - lengthOfName; // Maximum start position for the
name to be fully visible
    int position = 0; // Start position of the name
    bool movingRight = true; // Direction of movement

    while (true) {
        for (position = 0; position <= maxPosition; ++position) {
            if (movingRight) {
                // Moving to the right on the top row
                lcd.clear();
                lcd.setCursor(position, 0); // Move cursor to the right
                lcd.print("Santiago Cryz");
                delay(300); // Adjust speed of movement
            } else {
                // Moving to the left on the bottom row
                lcd.clear();
                lcd.setCursor(maxPosition - position, 1); // Move cursor to the left
                lcd.print("Santiago Cruz");
                delay(300); // Adjust speed of movement
            }
        }

        // Once the name reaches the edge, change direction
        movingRight = !movingRight;
    }
}
```