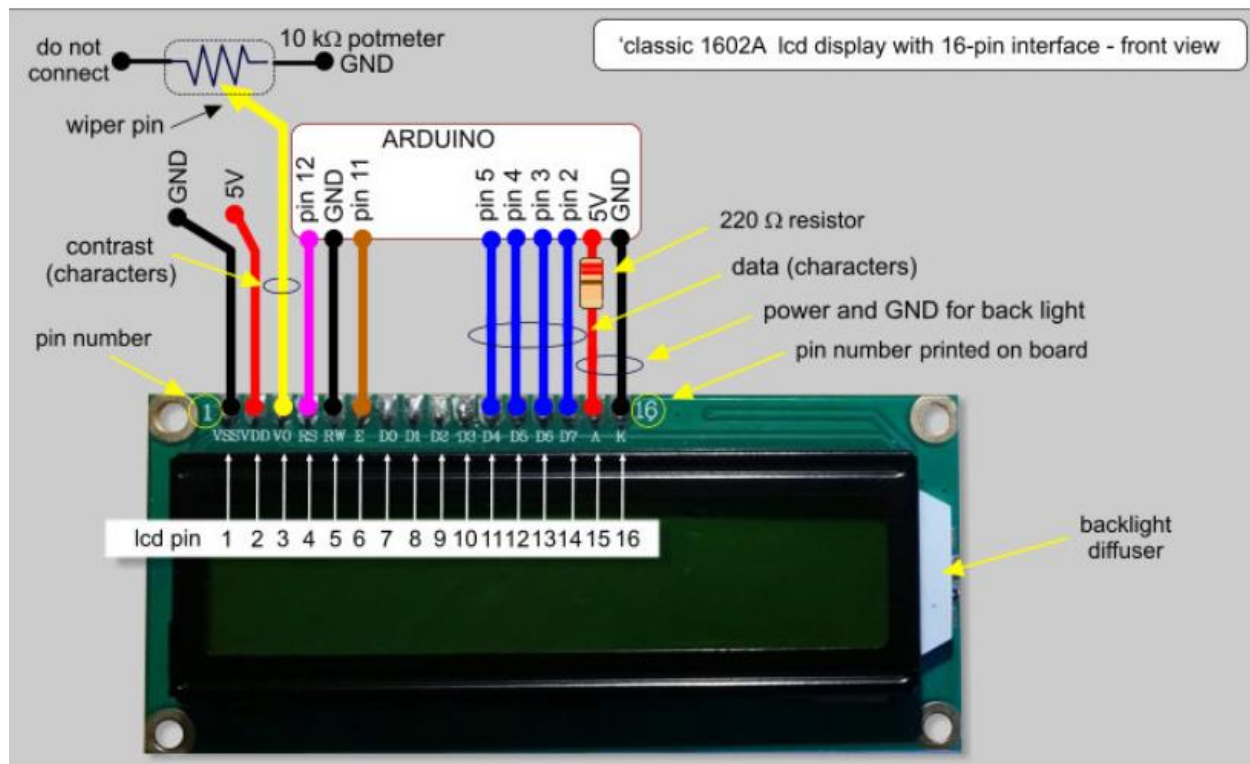
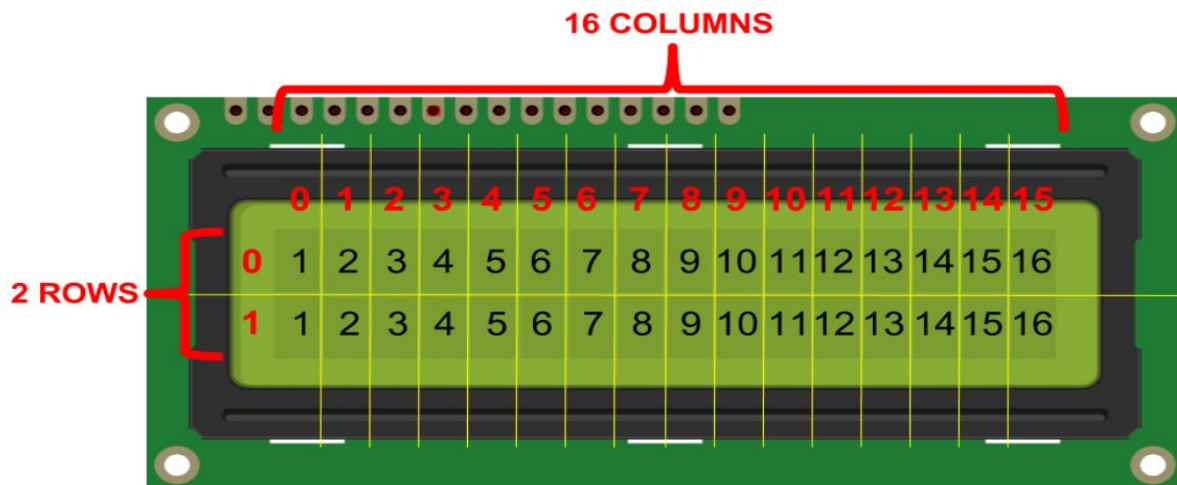


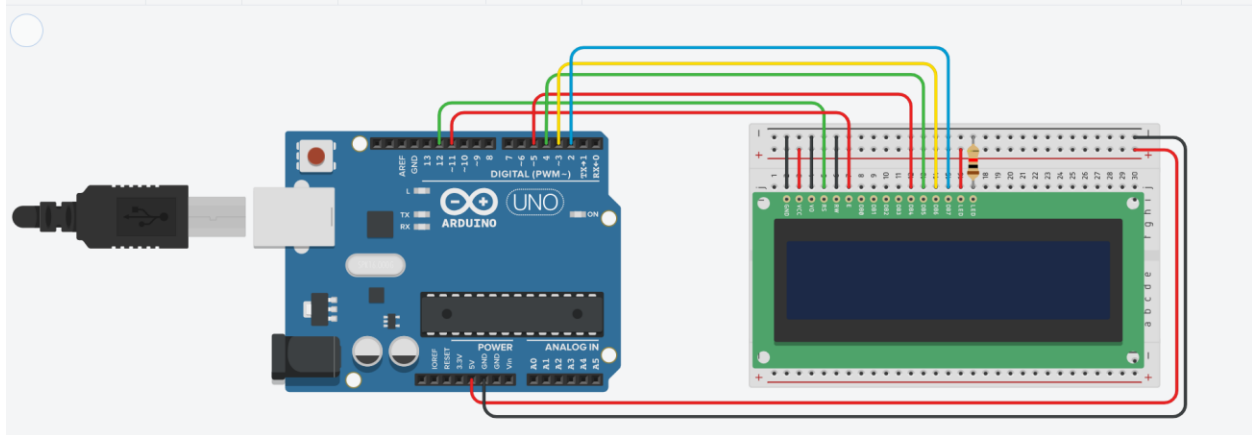
ARDUINO WITH LCD INTERFACE:

LCD (Liquid Crystal Display) is a **type of flat panel display which uses liquid crystals in its primary form of operation**. LEDs have a large and varying set of use cases for consumers and businesses, as they can be commonly found in smartphones, televisions, computer monitors and instrument panels.

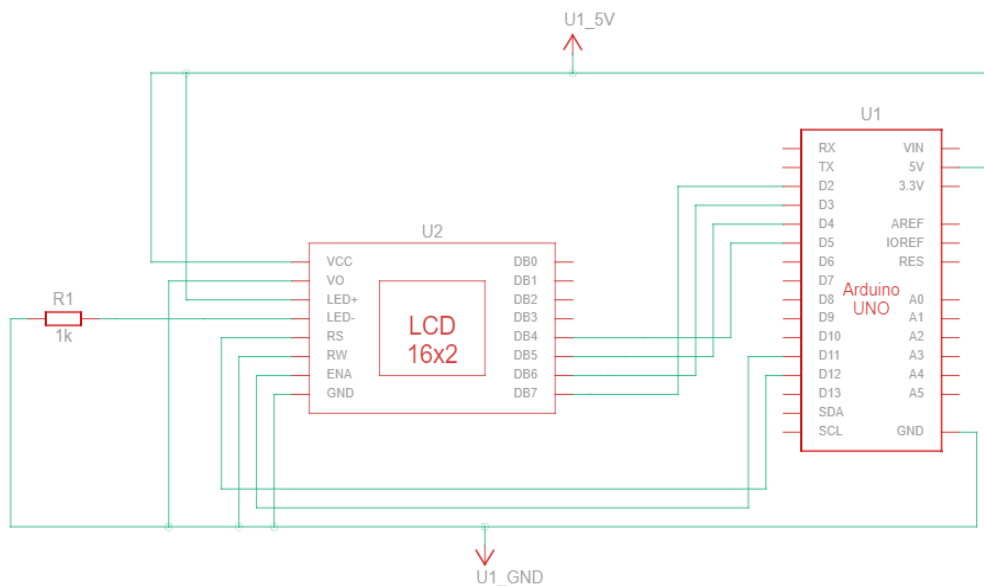


This circuit is the basic circuit for Arduino projects with LCD Display. If you know how to wire up a LCD Display with an Arduino then you can do any Arduino Projects including the LCD Display and the Arduino. You can use any Arduino flavor for this circuit, but just remember to put a current limiting resistor between the the pin 16 of the LCD Display to GND. Also if you want you can connect a 10k ohm Potentiometer to pin 3 of the LCD Display, remember you need to connect pin 1 of the POT to VCC - 5V and pin 2 of the POT to GND.

CIRCUIT:



SCHEMATIC:



CODE:

```
#include<LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
void setup()
{
```

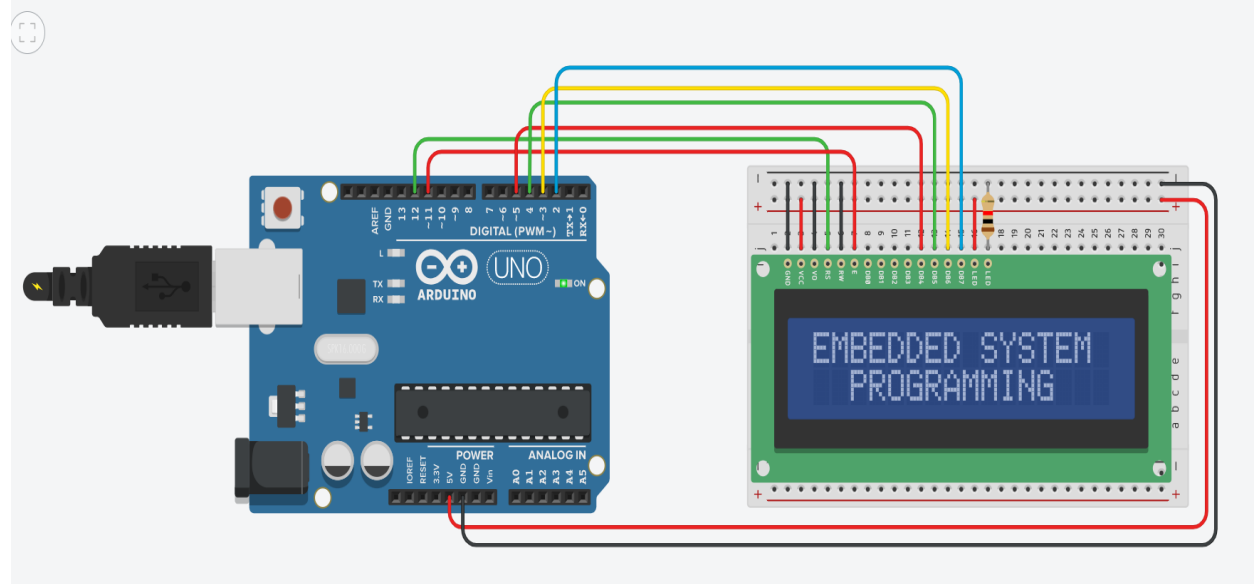
```

lcd.begin(16, 2);
}

void loop()
{
  lcd.setCursor(0,0);
  lcd.print("EMBEDDED SYSTEM");
  lcd.setCursor(2,1);
  lcd.print("PROGRAMMING");
}

```

OUTPUT:



ARDUINO WITH LCD INTERFACE EXAMPLE 2:

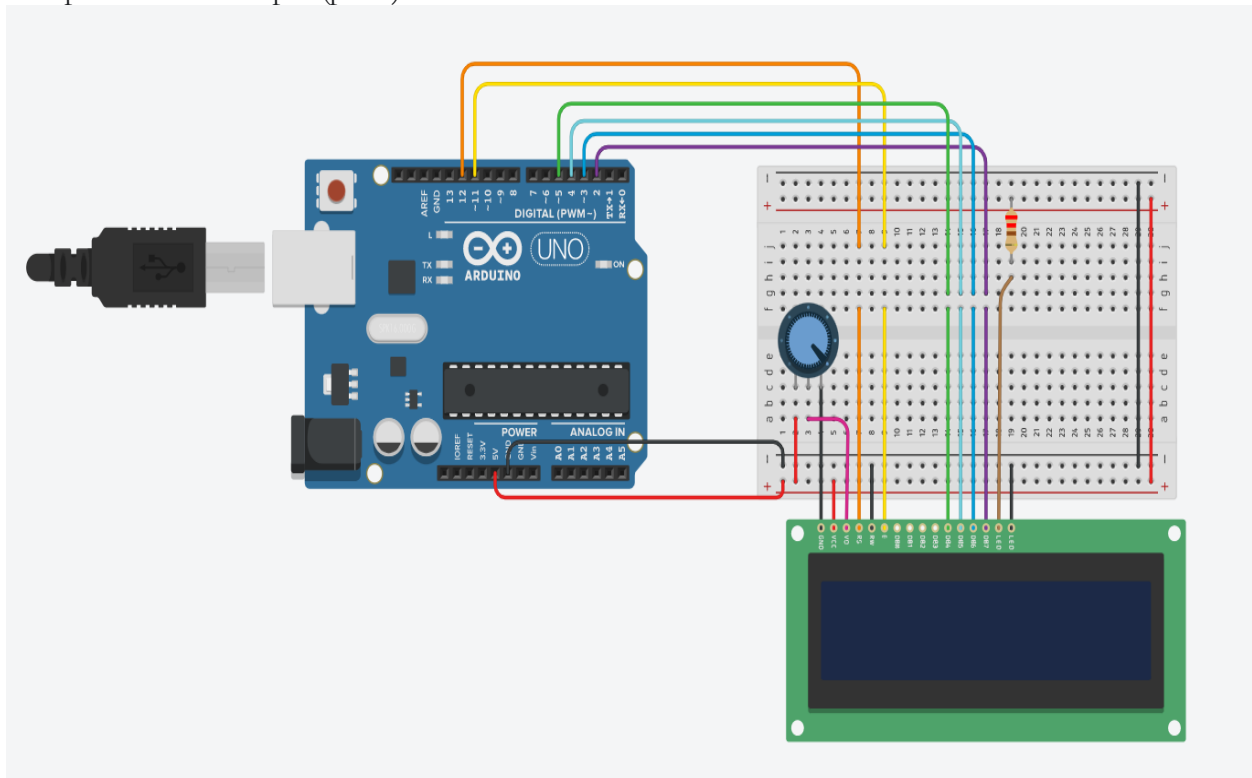
Demonstrates the use a 16x2 LCD display. The Liquid Crystal library works with all LCD displays that are compatible with the Hitachi HD44780 driver. There are many of them out there, and you can usually tell them by the 16-pin interface.

This sketch prints "Your Name" to the LCD and shows the time (in Minutes).

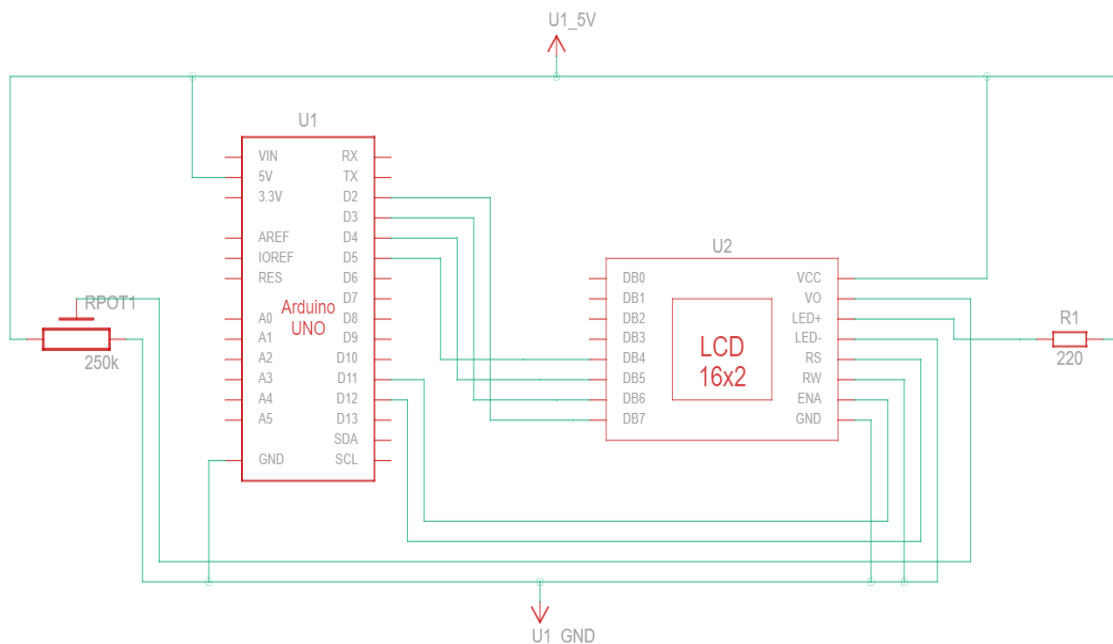
CIRCUIT:

- * LCD RS pin to digital pin 12
- * LCD Enable pin to digital pin 11
- * LCD D4 pin to digital pin 5
- * LCD D5 pin to digital pin 4
- * LCD D6 pin to digital pin 3
- * LCD D7 pin to digital pin 2
- * LCD R/W pin to ground

- * LCD VSS pin to ground
- * LCD VCC pin to 5V
- * 10K resistor:
- * ends to +5V and ground
- * wiper to LCD VO pin (pin 3)



SCHEMATIC:



CODE:

```
// include the library code:
#include <LiquidCrystal.h>

// initialize the library with the numbers of the interface pins
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup() {
  // set up the LCD's number of columns and rows:
  lcd.begin(16, 2);
  // Print a message to the LCD.
  lcd.print("GEORGE WAINAINA");
}

void loop() {
  // set the cursor to column 0, line 1
  // (note: line 1 is the second row, since counting begins with 0):
  lcd.setCursor(0, 1);
  // print the number of seconds since reset:
  lcd.print(millis() / 1000);
}
```

OUTPUT:

