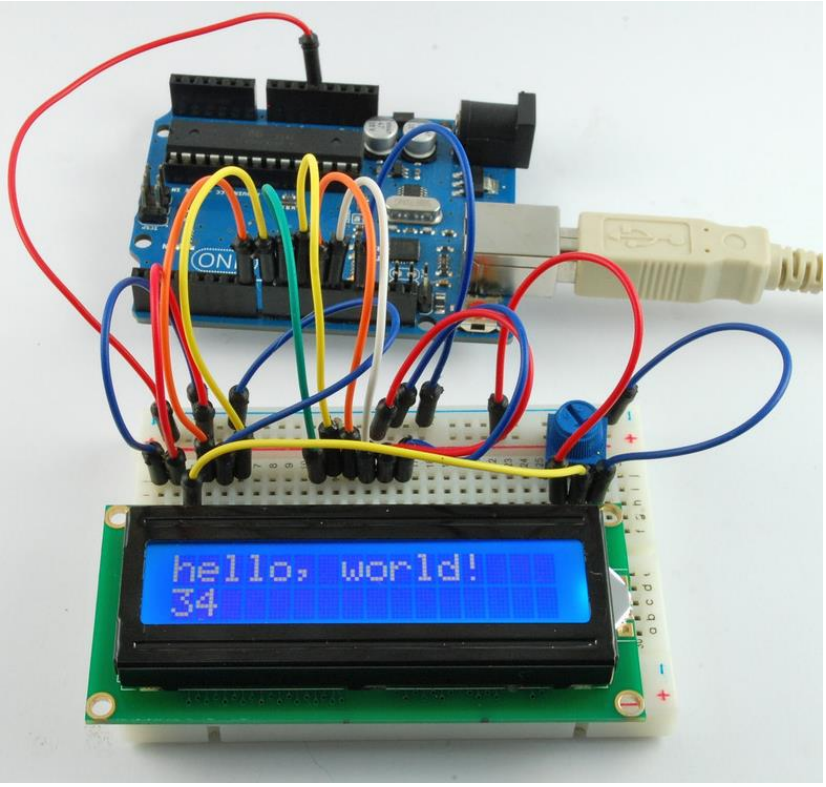
Overview

In this lesson, you will learn how to wire up and use an alphanumeric LCD

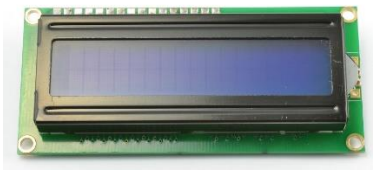


The display has an LED backlight and can display two rows with up to 16 characters on each row. You can see the rectangles for each character on the display and the pixels that make up each character. The display is just white on blue and is intended for showing text.

In this lesson, we will run the Arduino example program for the LCD library, but in the next lesson, we will get our display to show the temperature and light level, using sensors.

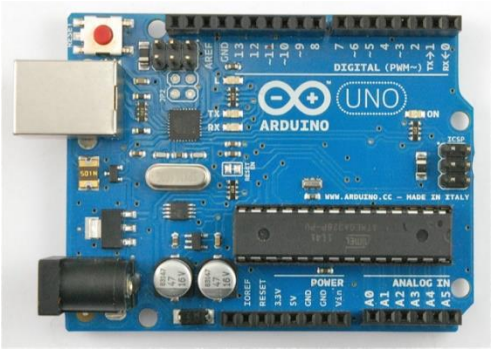
PARTS

1K ohm resistor (brown,black,black,brown,brown) - 1

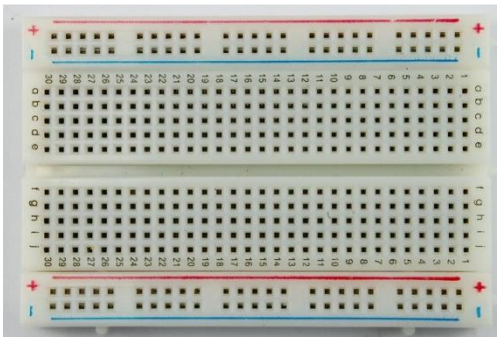


LCD Display (16 x 2 characters)

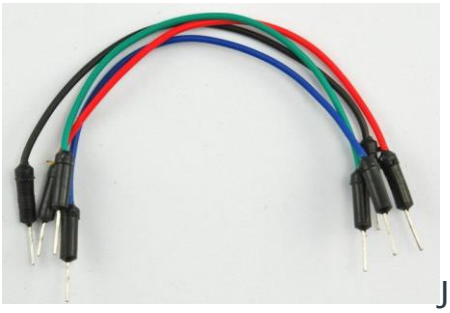
10 kΩ variable resistor (pot) – 1



Arduino UNO R3 – 1



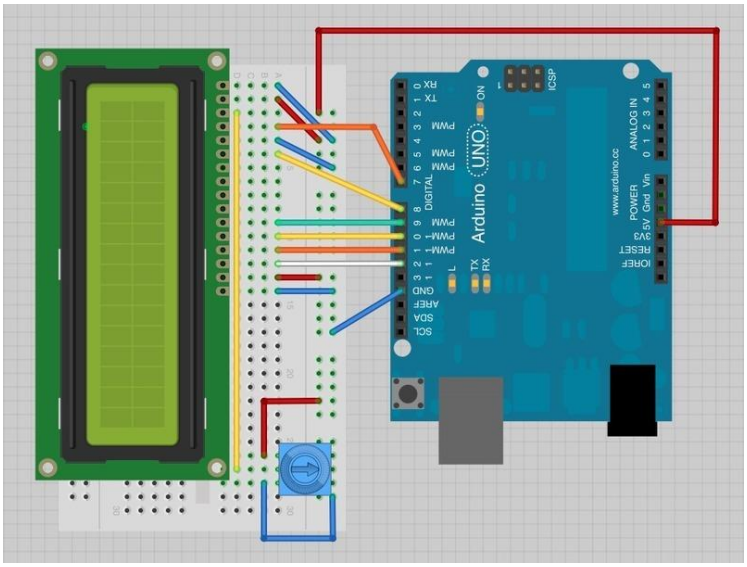
breadboard – 1



Jumper wires – 15

Breadboard Layout

The LCD display needs six Arduino pins, all set to be digital outputs. It also needs 5V and GND connections.



There are quite a few connections to be made. Lining up the display with the top of the breadboard helps to identify its pins without too much counting, especially if the breadboard has its rows numbered with row 1 as the top row of the board. Do not forget, the long yellow lead that links the slider of the pot to pin 3 of the display. The 'pot' is used to control the contrast of the display.
You may find that your display is supplied without header pins attached to it. If so, follow the instructions in the next section.

Arduino Code

Get the sketch from your teacher and load it onto your Arduino board.

Upload the code to your Arduino board and you should see the message 'hello, world' displayed, followed by a number that counts up from zero.

The first thing of note in the sketch is the line: #include <LiquidCrystal.h>

After uploading this code, make sure the backlight is lit up, and adjust the potentiometer all the way around until you see the text message

Other Things to Do

Try pressing the Reset button on the Arduino, notice that the count goes back to 0.
Try moving the position where the count is displayed to near the middle of the second row of the display.