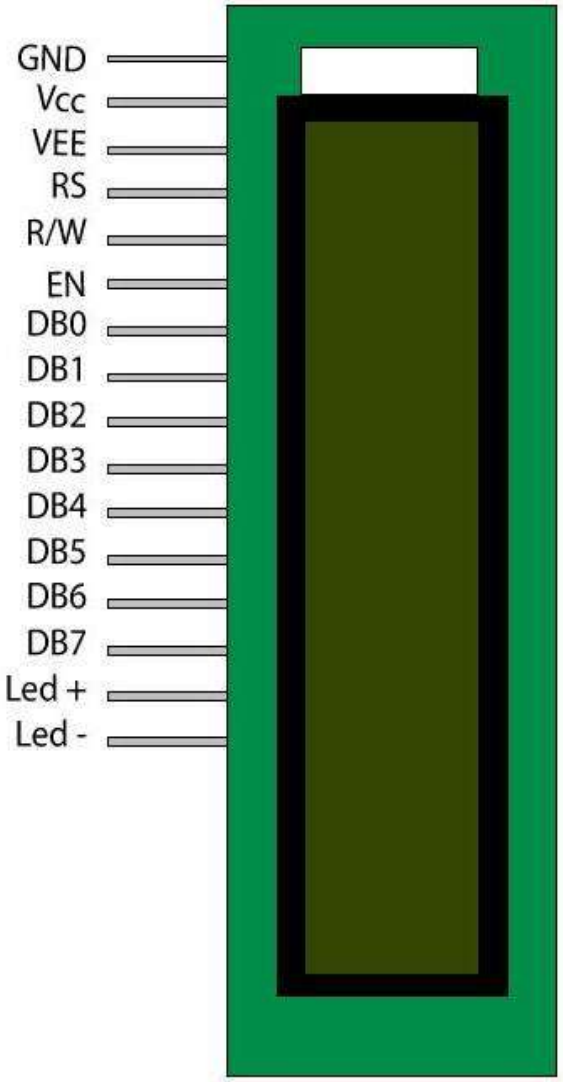
# Interfacing of LCD

# LCD (Liquid Crystal Display)

- Liquid crystal displays (LCDs) are a commonly used to display data in devices such as calculators, microwave ovens, and many other electronic devices.
- In this tutorial, you will learn how to use a 16x2 LCD with Arduino. As shown in the table below, eight of the pins are data lines (pins 7-14), two are for power and ground (pins 1 and 16), three are used to control the operation of LCD (pins 4-6), and one is used to adjust the LCD screen brightness (pin 3). The remaining two pins (15 and 16) power the backlight.

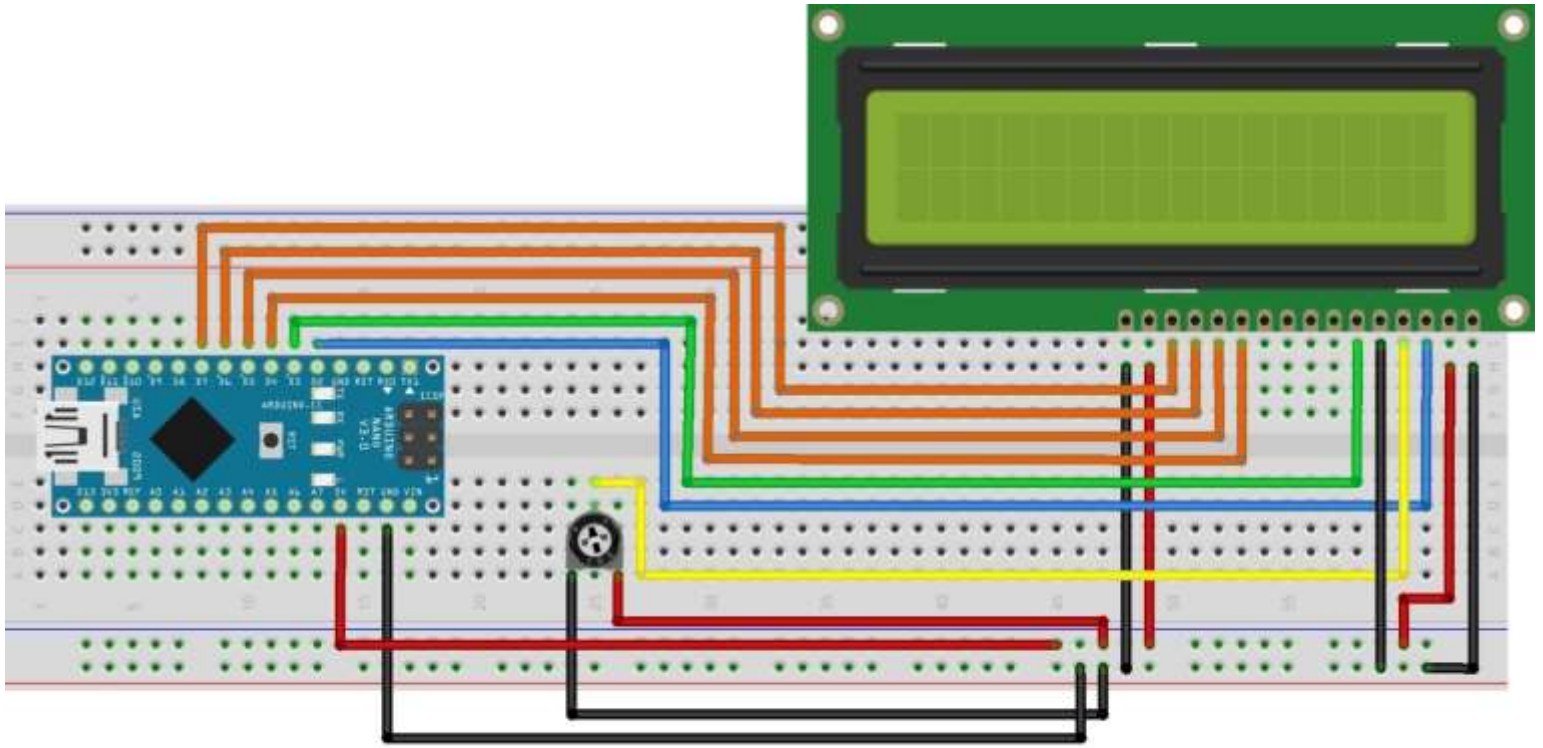
| Terminal used | Connection |
|---|---|
| Terminal 1 | GND |
| Terminal 2 | +5V |
| Terminal 3 | Mid terminal of potentiometer (for brightness control) |
| Terminal 4 | Register Select (RS) |
| Terminal 5 | Read/Write (RW) |
| Terminal 6 | Enable (EN) |
| Terminal 7 | DB0 |
| Terminal 8 | DB1 |
| Terminal 9 | DB2 |
| Terminal 10 | DB3 |
| Terminal 11 | DB4 |
| Terminal 12 | DB5 |
| Terminal 13 | DB6 |
| Terminal 14 | DB7 |
| Terminal 15 | +4.2-5V |
| Terminal 16 | GND |



# Components Required

- Arduino Nano
- 16x2 LCD
- Potentiometer 10k
- Jumper wires
- Breadboard

# Connection Diagram



# Connections for LCD :

- PIN1 or Vss to ground
- PIN2 or Vdd or Vcc to +5V power
- PIN3 or Vee to potentiometer (gives maximum contrast best for a beginner)
- PIN4 or RS (Register Selection) to D2 of Arduino
- PIN5 or RW (Read/Write) to ground
- PIN6 or E (Enable) to D3 of Arduino
- PIN11 or D4 to D4 of Arduino
- PIN12 or D5 to D5 of Arduino
- PIN13 or D6 to D6 of Arduino
- PIN14 or D7 to D7 of Arduino
- PIN15 or A to +5V of Arduino
- PIN16 or K to GND of Arduino

**Project Link: https://youtu.be/JCob-YHR-rQ**