

# Experiment 10

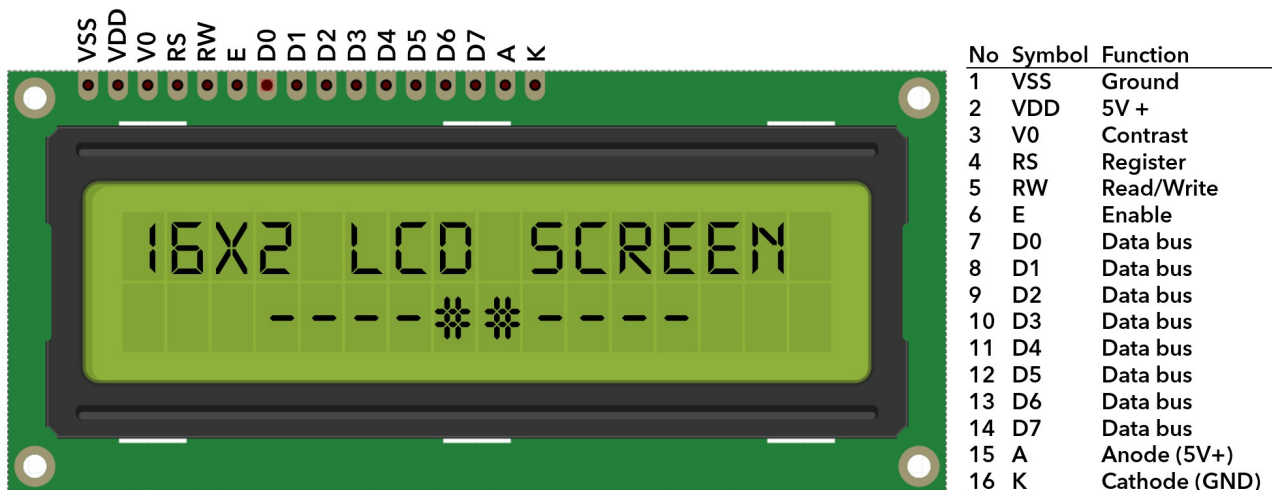
## Liquid Crystal Display (LCD)

### Outline

In this experiment, it is expected from you to,

1. Learn the LCD structure and usage
2. Assemble and test the LCD circuit
3. Modification

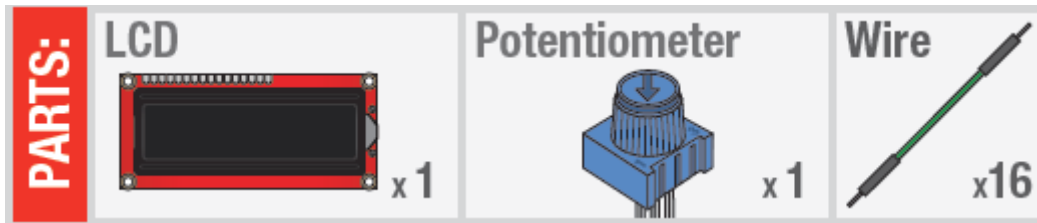
## 1. LCD



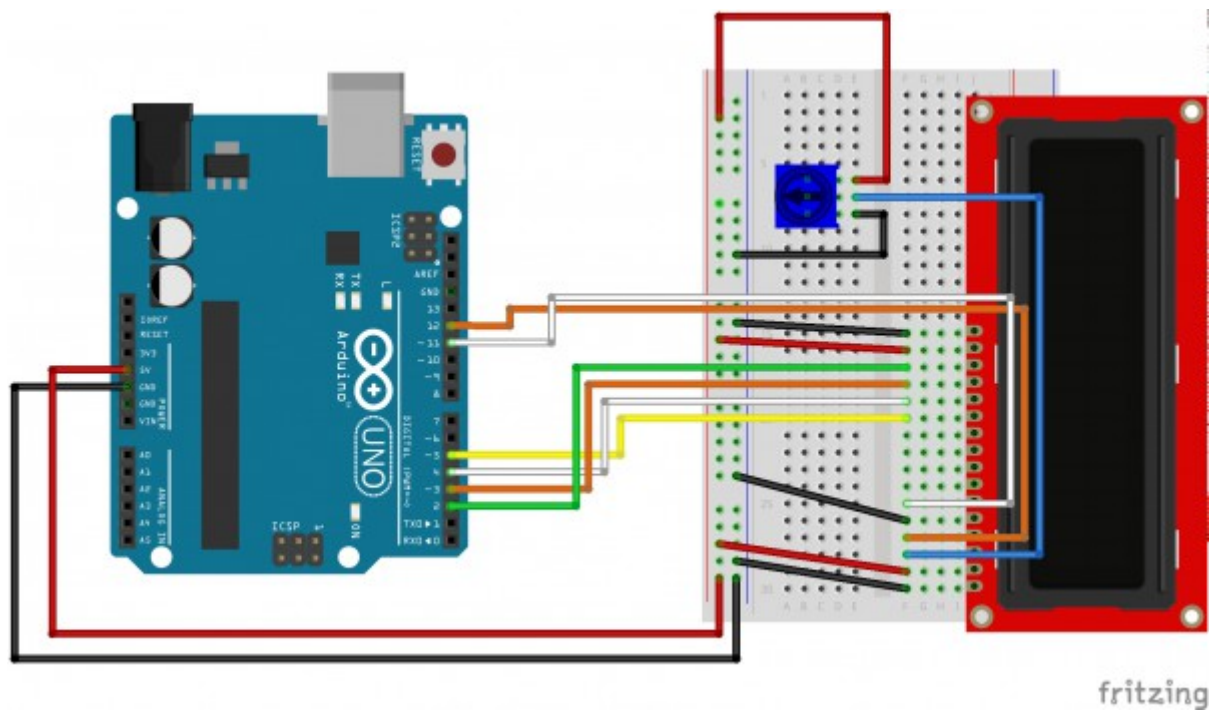
**Structure of Shift Register**

A liquid-crystal display (LCD) is a flat-panel display or other electronically modulated optical device that uses the light-modulating properties of liquid crystals combined with polarizers. Liquid crystals do not emit light directly, instead using a backlight or reflector to produce images in color or monochrome.

## 2. Assembling the LCD Circuit



## Required Parts



### Fritzing Diagram of the Circuit

1. Connect your potentiometer and the LCD as shown in the diagram
2. Verify and upload your code to the arduino board
3. Observe the result and compare it with the expected outcome

**Expected Outcome:** Contrast change according to potentiometer value. "Hello World" should be visible at some point.

# Modification

Use a light sensor, a button and a LCD as follows,

1. When button pressed display the value of your light sensor.