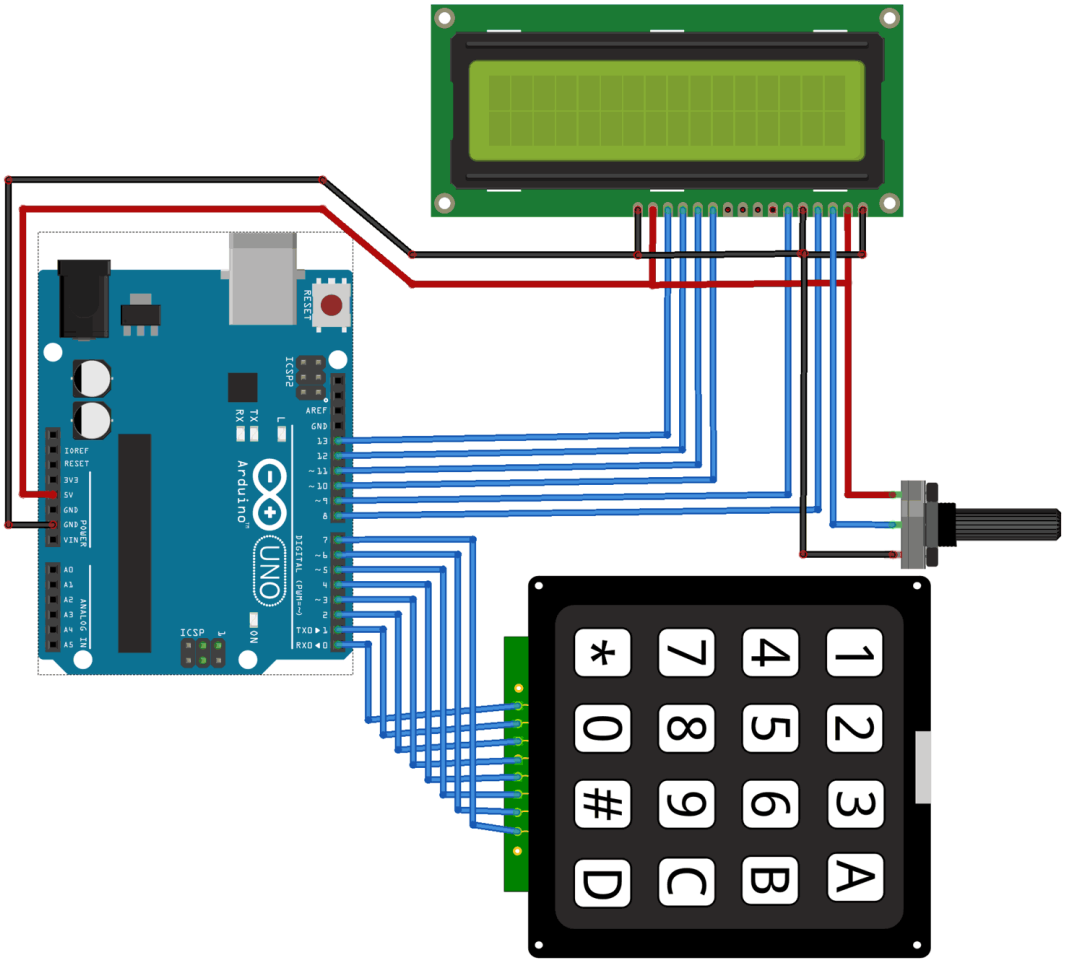
Materials

- Arduino Uno
- LCD
- Potentiometer for LCD brightness
- 4x4 Keypad

Background & Set-Up:

You will need to set-up your project to use the keypad and the LCD.
For more keypad info and a tutorial:
https://www.teachmemicro.com/arduino-keypad-interfacing-4x4-matrix/
For more LCD info and a tutorial:
https://learn.adafruit.com/adafruit-arduino-lesson-11-lcd-displays-1
https://learn.adafruit.com/adafruit-arduino-lesson-12-lcd-displays-part-2



Arduino Pin Name:	**Connected to:**
D0	1st pin of the keyboard
D1	2nd pin of the keyboard
D2	3rd pin of the keyboard
D3	4th pin of the keyboard
D4	5th pin of the keyboard
D5	6th pin of the keyboard
D6	7th pin of the keyboard
D7	8th pin of the keyboard
D8	Register select pin of LCD (pin 4)
D9	Enable pin of LCD (pin 6)
D10	Data pin 4 (pin 11)
D11	Data pin 5 (pin 12)
D12	Data pin 6 (pin 13)
D13	Data pin 7 (pin 14)
+5V	Connected to Vdd pin of LCD (pin 2)
Ground	Connected to Vss,Vee and RW pin of LCD (pin 1,3 and 5)

Goal:

We want to write a program that acts like a calculator. We will use the keypad as the input for the numbers and operations. We will use the LCD screen to display the numbers that the user inputs and the result of the operation, just like a standard simple calculator.

We will support add, subtract, multiply, divide, clear, and equals. Each operation will only take operands meaning it will only take two operations. We will not support complex operations such as:

3 x 2 + 4 - 2

You can continually take on more operations to the result of the previous operation like a basic calculator. If I typed “3 + 4 =”, I would get a result of “7”. If I then typed “x 6”, I would get a result of “42”.

Special Notes:

Set up your keypad to work like this. You can tape over the buttons and write which function they should be.