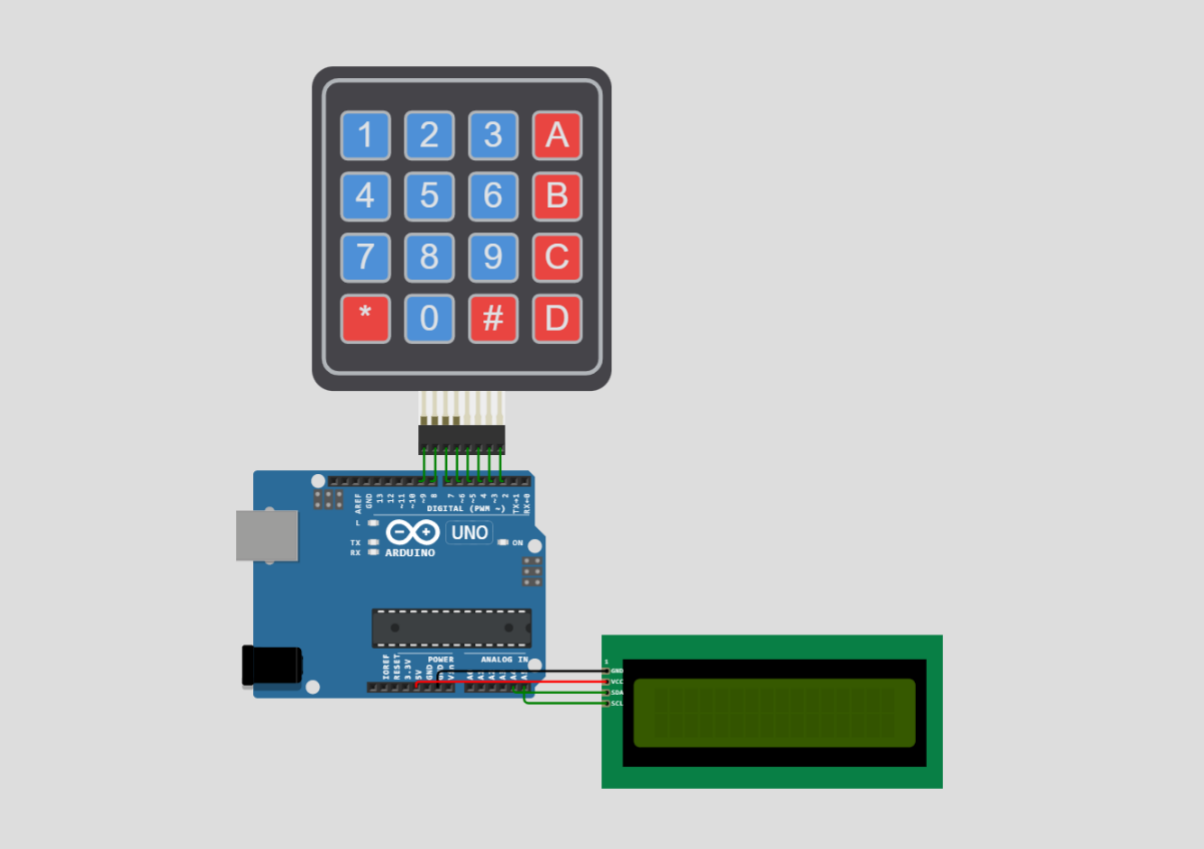
AES MINI PROJECT

1. **Using Arduino UNO , display numbers on LCD display which are being key pressed on keypad.**

   Components:

   - Arduino Uno
   - LCD I2C (16*2)
   - Keypad (4*4)
   - USB 2.0 Cable
   - Jump Wires (Male to Female)

   Diagram:



Source Code:

```
#include <Keypad.h>
#include <LiquidCrystal_I2C.h>

const int ROW_COUNT    = 4;
const int COLUMN_COUNT = 4;

char keyMap[ROW_COUNT][COLUMN_COUNT] = {
 {'1','2','3', 'A'},
 {'4','5','6', 'B'},
 {'7','8','9', 'C'},
 {'*','0','#', 'D'}
};

byte pinRows[ROW_COUNT] = {9, 8, 7, 6};      // connect to the row pinouts of the keypad
byte pinColumns[COLUMN_COUNT] = {5, 4, 3, 2}; // connect to the column pinouts of the keypad

Keypad keypad = Keypad(makeKeymap(keyMap), pinRows, pinColumns, ROW_COUNT, COLUMN_COUNT);
LiquidCrystal_I2C lcdDisplay(0x27, 16, 2); // I2C address 0x27, 16 column and 2 rows

int cursorColumn = 0;

void setup(){
 // initialize the LCD.
 lcdDisplay.init();
 lcdDisplay.backlight();
}

void loop(){
 char key = keypad.getKey();

 if (key) {
  lcdDisplay.setCursor(cursorColumn, 0); // move cursor to (cursorColumn, 0)
  lcdDisplay.print(key);              // print key at   (cursorColumn, 0)

  cursorColumn++;              // move cursor to next position
  if(cursorColumn == 16) {       // if all columns are used, clear the lcd
   lcdDisplay.clear();
   cursorColumn = 0;
  }
 }
}
```

Output: