**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:**

A group of electronic devices

Description automatically generated with low confidence

**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:**

**A picture containing text, electronics

Description automatically generated**