tinkercad.com/things/0nZDQd2qw7A-copy-of-arduino-based-calculator/editel?tenant=circuits

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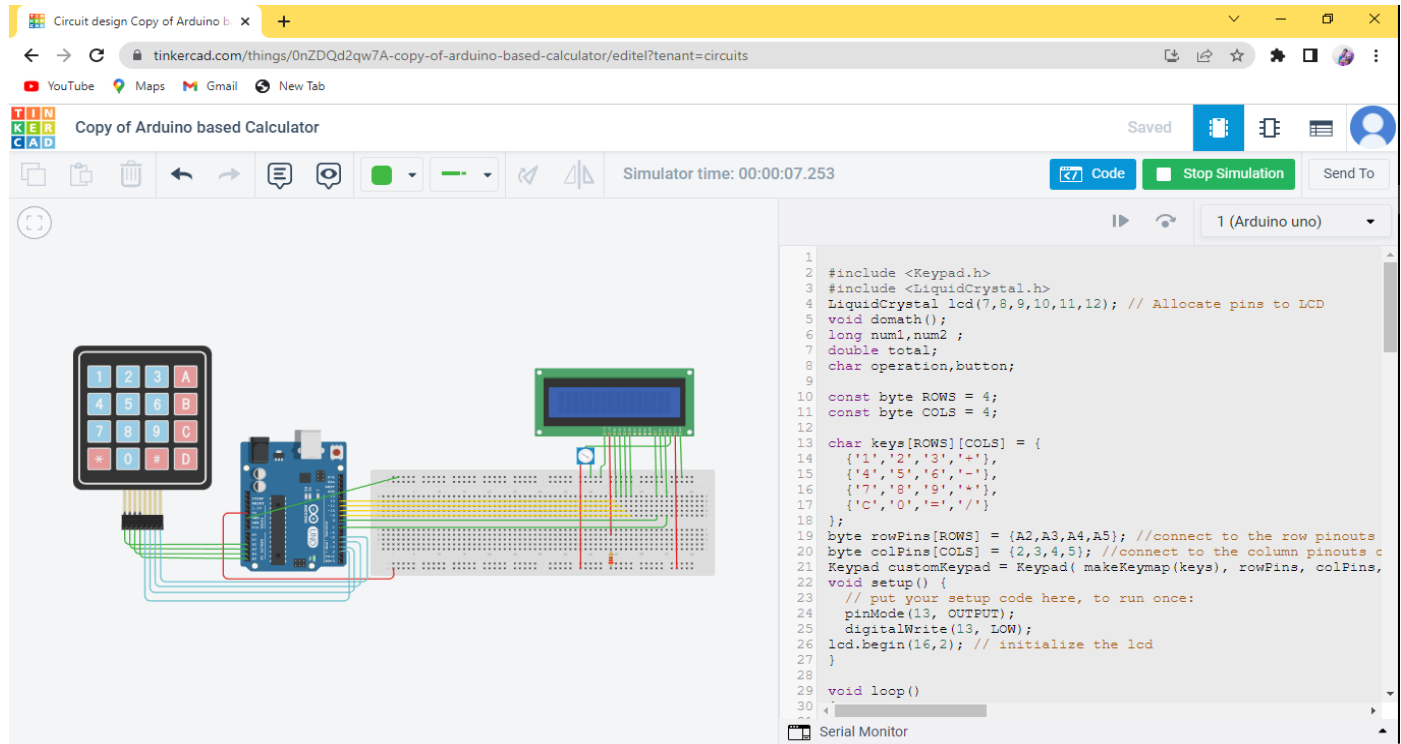
Copy of Arduino based Calculator

Saved

Simulator time: 00:00:07.253

Code   Stop Simulation   Send To

1 (Arduino uno)

```
1
2    #include <Keypad.h>
3    #include <LiquidCrystal.h>
4    LiquidCrystal lcd(7,8,9,10,11,12); // Allocate pins to LCD
5    void domath();
6    long num1,num2 ;
7    double total;
8    char operation,button;
9
10   const byte ROWS = 4;
11   const byte COLS = 4;
12
13   char keys[ROWS][COLS] = {
14     {'1','2','3','+'},
15     {'4','5','6','-'},
16     {'7','8','9','*'},
17     {'C','0','=','/'}
18   };
19   byte rowPins[ROWS] = {A2,A3,A4,A5}; //connect to the row pinouts
20   byte colPins[COLS] = {2,3,4,5}; //connect to the column pinouts o
21   Keypad customKeypad = Keypad( makeKeymap(keys), rowPins, colPins,
22   void setup() {
23     // put your setup code here, to run once:
24     pinMode(13, OUTPUT);
25     digitalWrite(13, LOW);
26   lcd.begin(16,2); // initialize the lcd
27   }
28
29   void loop()
30
```

Serial Monitor

```cpp
#include <LiquidCrystal.h>

#include <Keypad.h>


LiquidCrystal lcd(0, 1, 2, 3, 4, 5);

const byte ROWS = 4;

const byte COLS = 4;


char keys [ROWS] [COLS] = {

 {'7', '8', '9', '/'},

 {'4', '5', '6', '*'},

 {'1', '2', '3', '-'},

 {'C', '0', '=', '+'}

};
byte rowPins[ROWS] = {13 ,12 ,11 ,10};

byte colPins[COLS] = {9, 8, 7, 6};


Keypad myKeypad = Keypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS );



boolean presentValue = false;

boolean next = false;

boolean final = false;

String num1, num2;

int answer;

char op;
```

```
void setup()

{

 lcd.begin(16,2);

 lcd.setCursor(0,0);

 lcd.print("Electronics Projects ");

 lcd.setCursor(0,1);

 lcd.print("    Presents    ");

 delay(5000);

 lcd.setCursor(0,0);

 lcd.print(" Arduino based  ");

 lcd.setCursor(0,1);

 lcd.print("  Calculator"    );

 delay(5000);

 lcd.clear();

}


void loop(){

 char key = myKeypad.getKey();


 if (key != NO_KEY &&
(key=='1'||key=='2'||key=='3'||key=='4'||key=='5'||key=='6'||key=='7'||key=='8'||key=='9'||key=='0')
)

 {

  if (presentValue != true)

  {
```

```
    num1 = num1 + key;

    int numLength = num1.length();

    lcd.setCursor(15 - numLength, 0); //to adjust one whitespace for operator

    lcd.print(num1);

   }

   else

   {

    num2 = num2 + key;

    int numLength = num2.length();

    lcd.setCursor(15 - numLength, 1);

    lcd.print(num2);

    final = true;

   }

 }

 else if (presentValue == false && key != NO_KEY && (key == '/' || key == '*' || key == '-' || key == '+'))

 {

  if (presentValue == false)

  {

   presentValue = true;

   op = key;

   lcd.setCursor(15,0);

   lcd.print(op);

  }

 }
```

```
else if (final == true && key != NO_KEY && key == '='){

  if (op == '+'){

    answer = num1.toInt() + num2.toInt();

  }

  else if (op == '-'){

    answer = num1.toInt() - num2.toInt();

  }

  else if (op == '*'){

    answer = num1.toInt() * num2.toInt();

  }

  else if (op == '/'){

    answer = num1.toInt() / num2.toInt();

  }

    lcd.clear();

    lcd.setCursor(15,0);

    lcd.autoscroll();

    lcd.print(answer);

    lcd.noAutoscroll();

}

else if (key != NO_KEY && key == 'C'){

  lcd.clear();

  presentValue = false;

  final = false;

  num1 = "";
```

```
        num2 = "";

        answer = 0;

        op = ' ';

    }

}
```