Avance #4

El código trabaja con un sensor ultrasónico, un buzzer, display LCD y teclado.

```
#include <Password.h>
#include <Keypad.h>
#include <Servo.h>
#include <LiquidCrystal_I2C.h>
#include<Wire.h>

LiquidCrystal_I2C lcd(0x3F, 16,2);



Servo servomotor;
//Password contra1 = Password("180");
//Password contra2 = Password("0");

const int ledVERDE = 0;
const int ledROJO = 1;



const int triggerULTRA = 2;
const int echoULTRA = 3;
const int buzzer = 9;
const int servo = 4;
const byte rowsTECLADO = 4; //four rows
const byte colsTECLADO = 4; //four columns

char keys[rowsTECLADO][colsTECLADO] = {
 {'1','2','3','A'},
 {'4','5','6','B'},
 {'7','8','9','C'},
```

```
 {'*','0','#','D'}
};
byte rowPins[rowsTECLADO] = {13, 12, 11, 10}; //connect to the row pinouts of the keypad
byte colPins[colsTECLADO] = {8, 7, 6, 5}; //connect to the column pinouts of the keypad

Keypad teclado = Keypad( makeKeymap(keys), rowPins, colPins, rowsTECLADO, colsTECLADO);

void setup(){

 Serial.begin(9600);

 servomotor.attach(servo);
 pinMode(buzzer,OUTPUT);
 pinMode(triggerULTRA,OUTPUT);
 pinMode(echoULTRA, INPUT);
 digitalWrite(triggerULTRA, LOW);

 lcd.init();
 lcd.backlight();
 //lcd.clear();
 lcd.setCursor(0,0);
 delay(3000);

 pinMode(ledVERDE, OUTPUT);
 pinMode(ledROJO, OUTPUT);


}

void loop(){
```

```
//TECLADO
char key = teclado.getKey();

if (key){
  Serial.println(key);
}



//ULTRASONICO
digitalWrite(triggerULTRA, HIGH);
delayMicroseconds(10);          //Enviamos un pulso de 10us
digitalWrite(triggerULTRA, LOW);

long tiempo;
long distancia;

tiempo = pulseIn(echoULTRA, HIGH);
distancia = tiempo/59;

Serial.print("Distancia: ");
Serial.print(distancia);
Serial.print("cm");
Serial.println("");
delay(100);



//BUZZER - LEDS
if(distancia <= 5){
  digitalWrite(buzzer,HIGH);
  digitalWrite(ledVERDE, HIGH);
  digitalWrite(ledROJO, LOW);
```

```
  }else{
    digitalWrite(buzzer,LOW);
    digitalWrite(ledVERDE, LOW);
    digitalWrite(ledROJO, HIGH);
    }


 //SERVOMOTOR
 int posicionSERVO = 0;
 if(key == '1'){
  servomotor.write(180);
  digitalWrite(ledROJO, LOW);
 }
 if(key == '2'){
  servomotor.write(0);
  digitalWrite(ledVERDE, LOW);
 }


 //Display
 if (key){
  Serial.println(key);
  lcd.print(key);
 }

}
```