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LED GLOW USING AURDINO

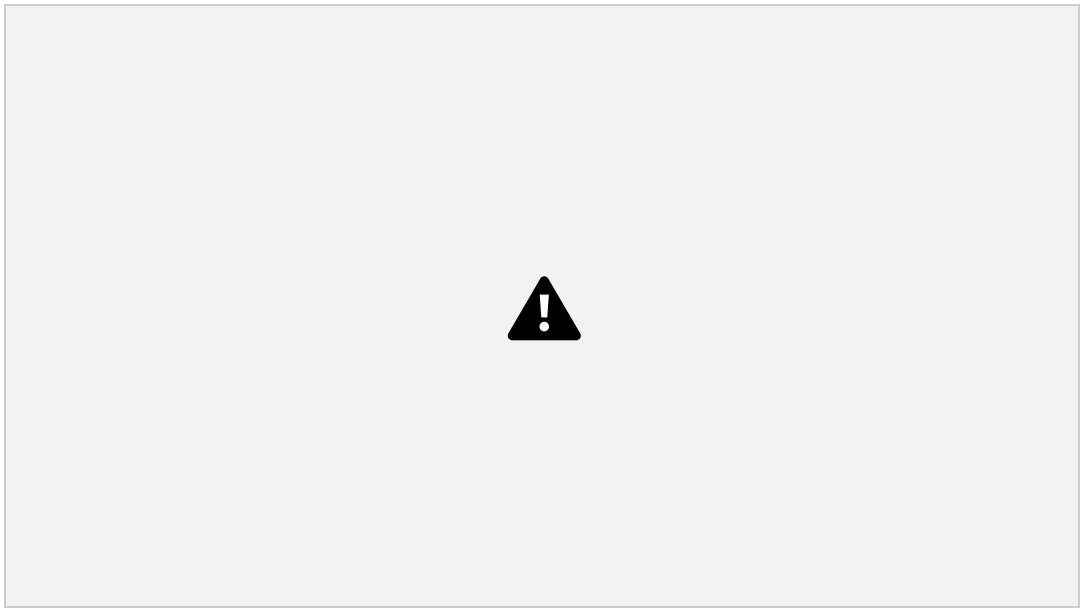
Aim: using Aurdino we can glow led
Equipmnets: 4 led,1 Aurdino,4 registor,8 wires.
Software: Thinkercad stimulator

code:

```
void setup()

{

  pinMode(5,OUTPUT);

  pinMode(11,OUTPUT);

  pinMode(12,OUTPUT);

  pinMode(3,OUTPUT);

  pinMode(8,OUTPUT);


}


void loop()

{

  digitalWrite(5,HIGH);

  delay(100);

  digitalWrite(5,LOW);

  delay(100);

  digitalWrite(11,HIGH);
```

```
 delay(100);
 digitalWrite(11,LOW);
 delay(100);
 digitalWrite(12,HIGH);
 delay(100);
 digitalWrite(12,LOW);
 delay(100);
 digitalWrite(3,HIGH);
 delay(100);
 digitalWrite(3,LOW);
 delay(100);
 digitalWrite(8,HIGH);
 delay(100);
 digitalWrite(8,LOW);
 delay(100);

}
```

output:



INTERNAL :- EMBBEDED SYSTEM

```
#include <Keypad.h>

#include <LiquidCrystal.h>

#include <Servo.h>


#define Password_Length 5


Servo myservo;

LiquidCrystal lcd(A0, A1, A2, A3, A4, A5);


int pos = 0;


char Data[Password_Length];

char Master[Password_Length] = "1234";
```

```
byte data_count = 0, master_count = 0;


bool Pass_is_good;
bool door = false;
char customKey;



/*---preparing keypad---*/


const byte ROWS = 4;
const byte COLS = 4;
char keys[ROWS][COLS] = {
 {'1', '2', '3', 'A'},
 {'4', '5', '6', 'B'},
 {'7', '8', '9', 'C'},
 {'*', '0', '#', 'D'}
};



byte rowPins[ROWS] = {0, 1, 2, 3};
byte colPins[COLS] = {4, 5, 6, 7};


Keypad customKeypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS);
```

```
/*--- Main Action ---*/
void setup()
{
  myservo.attach(9, 2000, 2400);
  ServoClose();
  lcd.begin(16, 2);
  lcd.print("Protected Door");
  loading("Loading");
  lcd.clear();
}



void loop()
{
  if (door == true)
  {
    customKey = customKeypad.getKey();
    if (customKey == '#')
    {
      lcd.clear();
      ServoClose();
      lcd.print("Door is closed");
      delay(3000);
      door = false;
    }
```

```
  }
  else
    Open();

}

void loading (char msg[]) {
  lcd.setCursor(0, 1);
  lcd.print(msg);

  for (int i = 0; i < 9; i++) {
    delay(1000);
    lcd.print(".");
  }
}

void clearData()
{
  while (data_count != 0)
  {
    Data[data_count--] = 0;
  }
  return;
}
```

```
void ServoClose()
{
  for (pos = 90; pos >= 0; pos -= 10) {
    myservo.write(pos);
  }
}

void ServoOpen()
{
  for (pos = 0; pos <= 90; pos += 10) {
    myservo.write(pos);
  }
}

void Open()
{
  lcd.setCursor(0, 0);
  lcd.print("Enter Password");

  customKey = customKeypad.getKey();
  if (customKey)
  {
    Data[data_count] = customKey;
    lcd.setCursor(data_count, 1);
    lcd.print(Data[data_count]);
```

```
  data_count++;
}

if (data_count == Password_Length - 1)
{
  if (!strcmp(Data, Master))
  {
    lcd.clear();
    ServoOpen();
    lcd.print(" Door is Open ");
    door = true;
    delay(5000);
    loading("Waiting");
    lcd.clear();
    lcd.print(" Time is up! ");
    delay(1000);
    ServoClose();
    door = false;
  }
  else
  {
    lcd.clear();
    lcd.print(" Wrong Password ");
    door = false;
  }
```

```
    delay(1000);
    lcd.clear();
    clearData();
  }
}
```