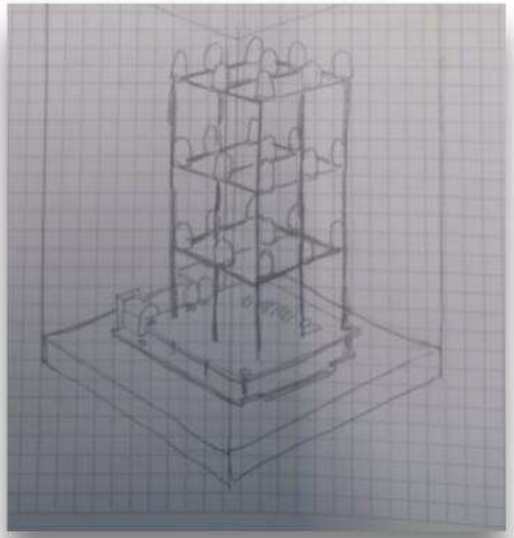
MÁQUINAS ELECTRÓNICAS: CUBO DE LEDs

Tecnología 4ESO

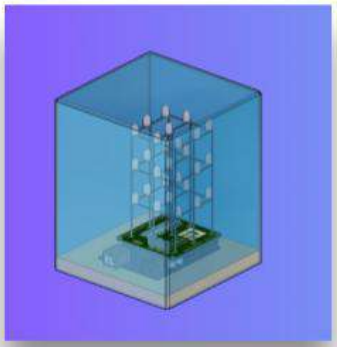
IES La Patacona
Curso 2023/24

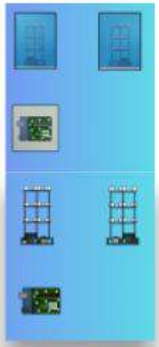
FASES DEL PROYECTO

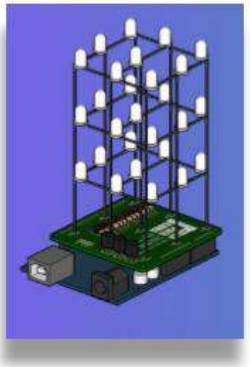
Fase 1. Planteamiento



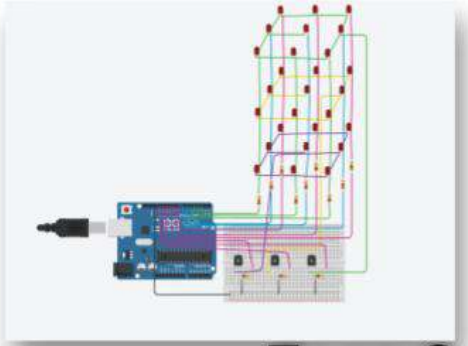
Fase 2. Modelado 3D



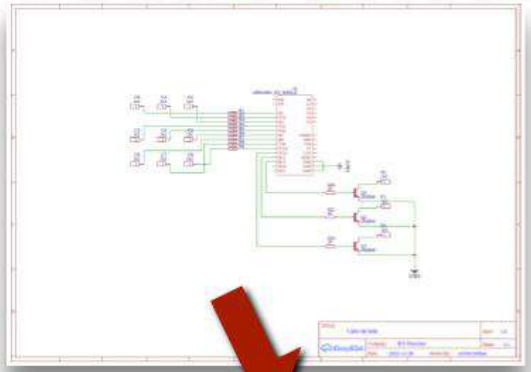




Fase 3. Simulación



Fase 4. Diseño electrónico



Fase 5. Programación

Fase 6. Montaje

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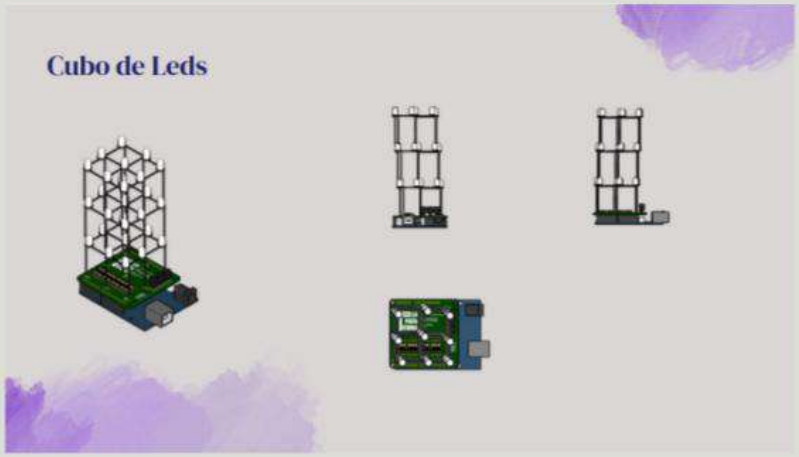
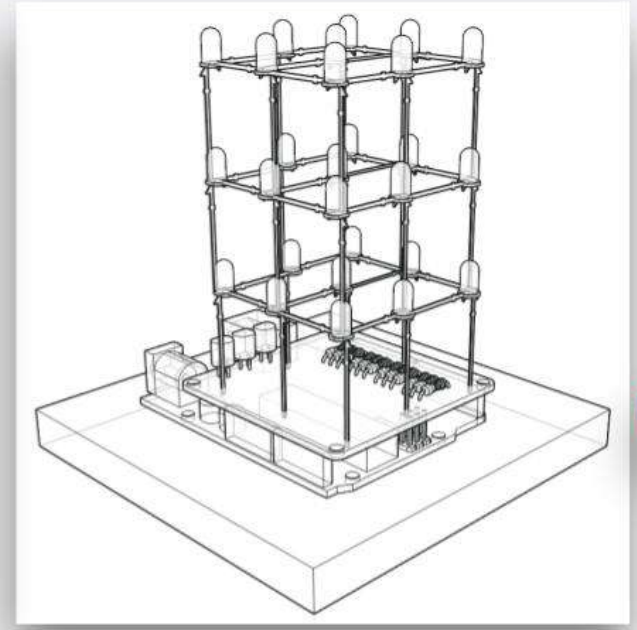
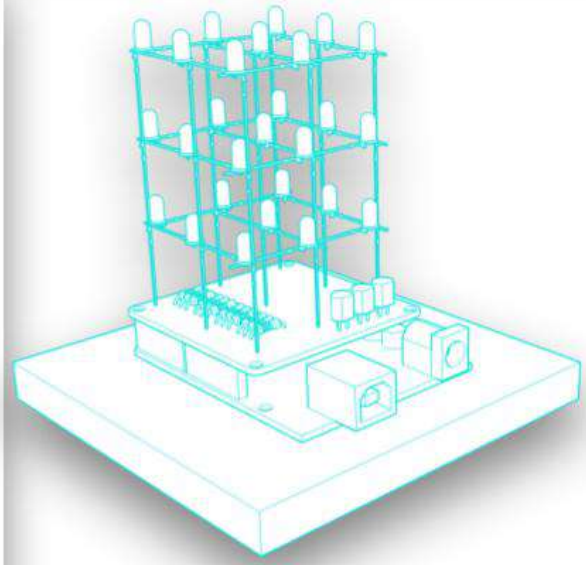
MODELADO 3D

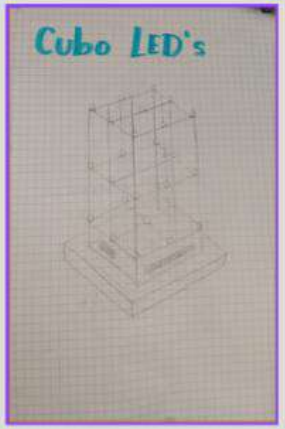
SketchUp PANEL DE FOTOS

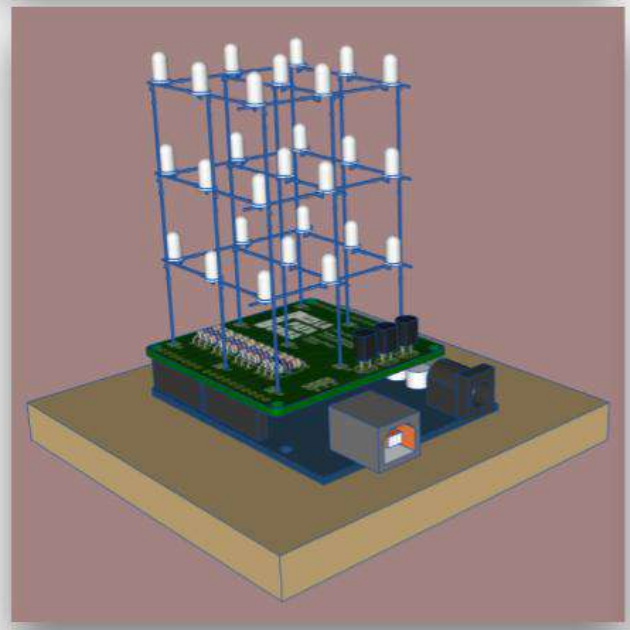


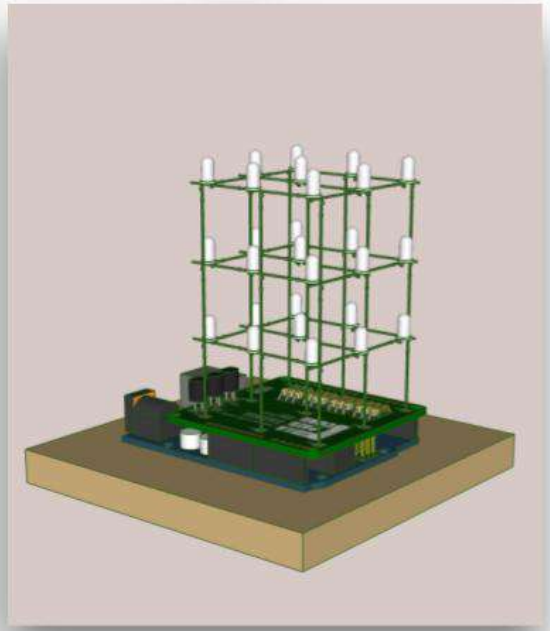




BOCETO

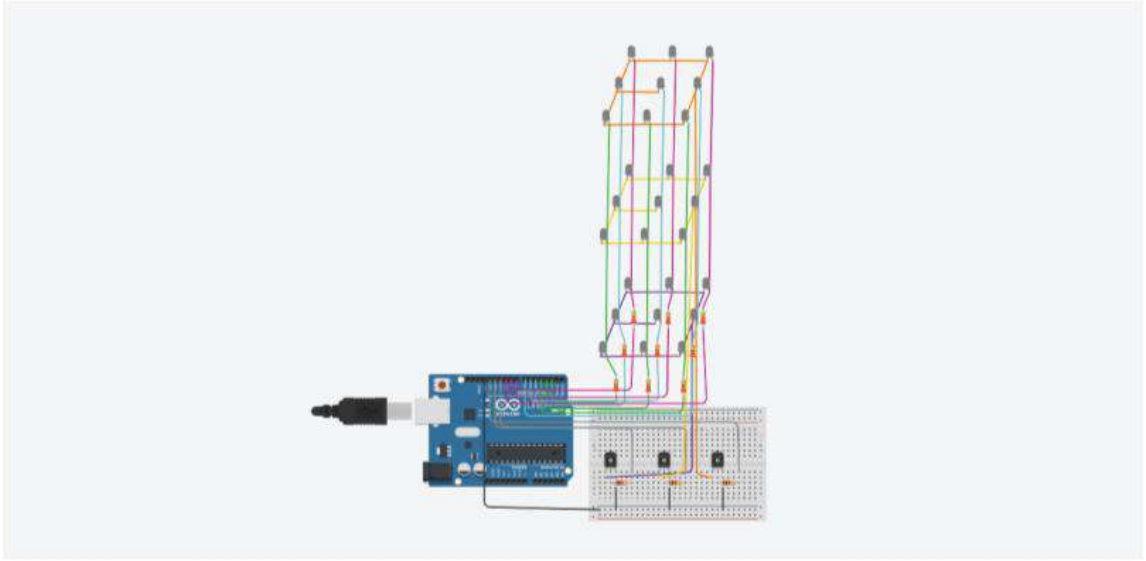


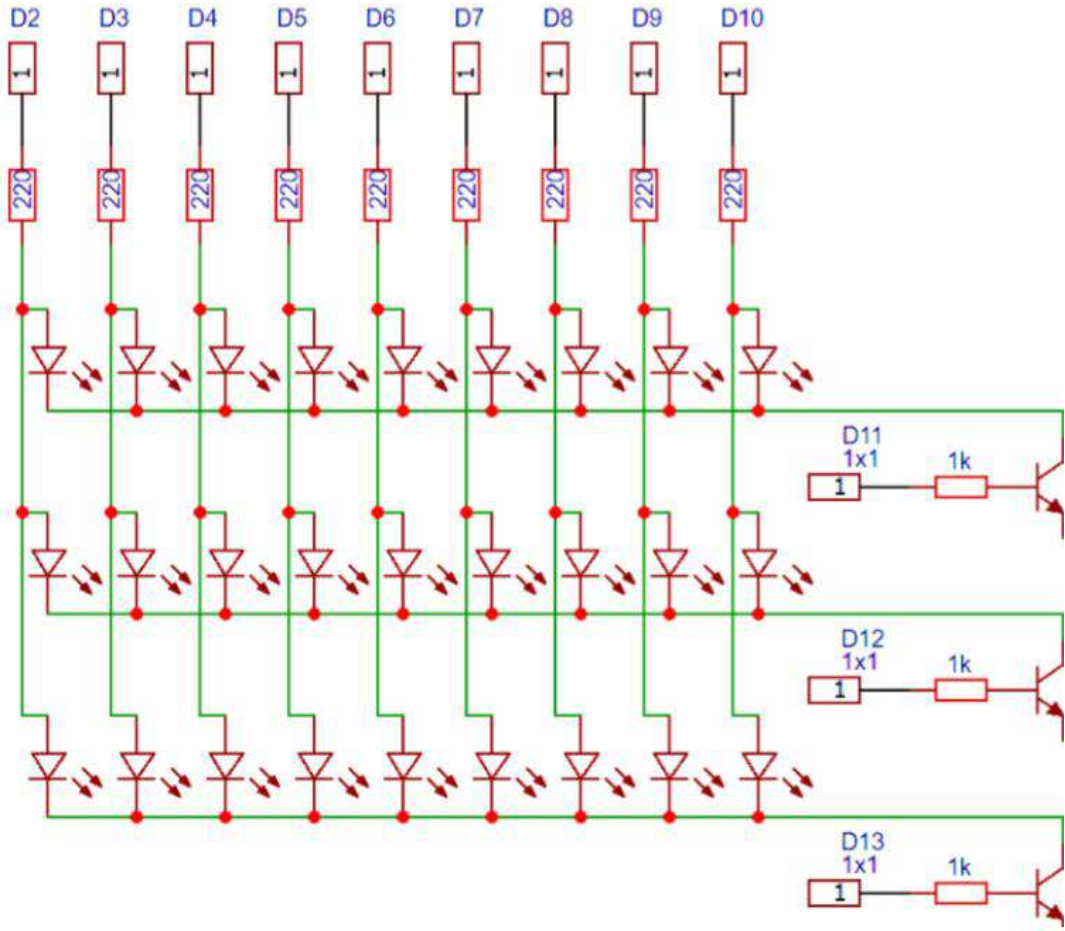


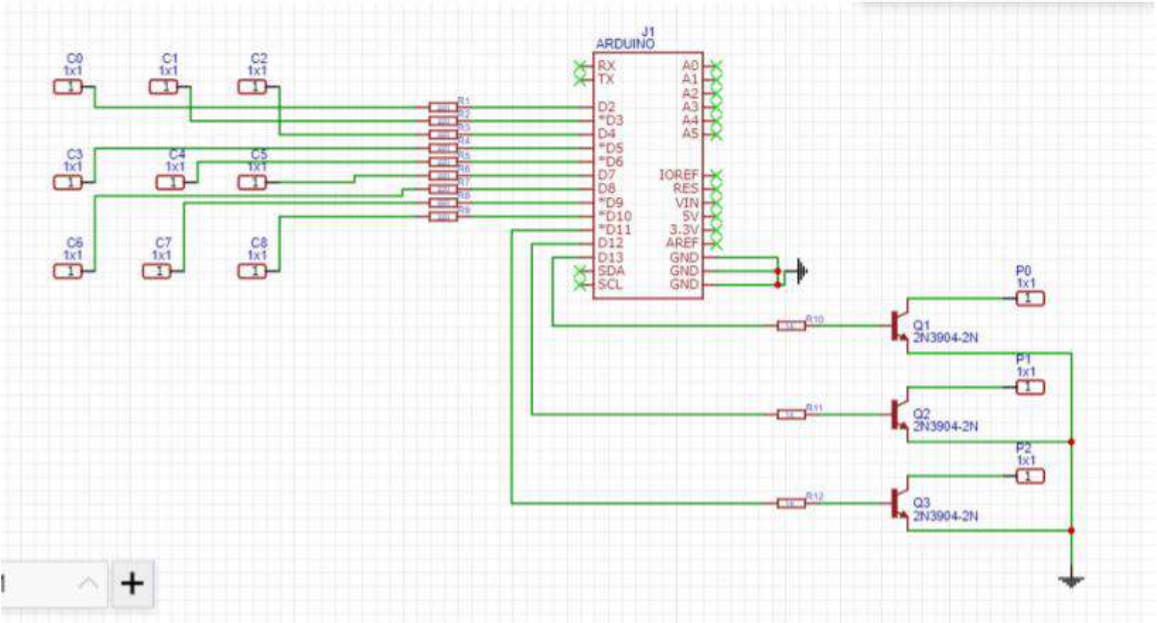


SIMULACIÓN

Cubo de LEDs







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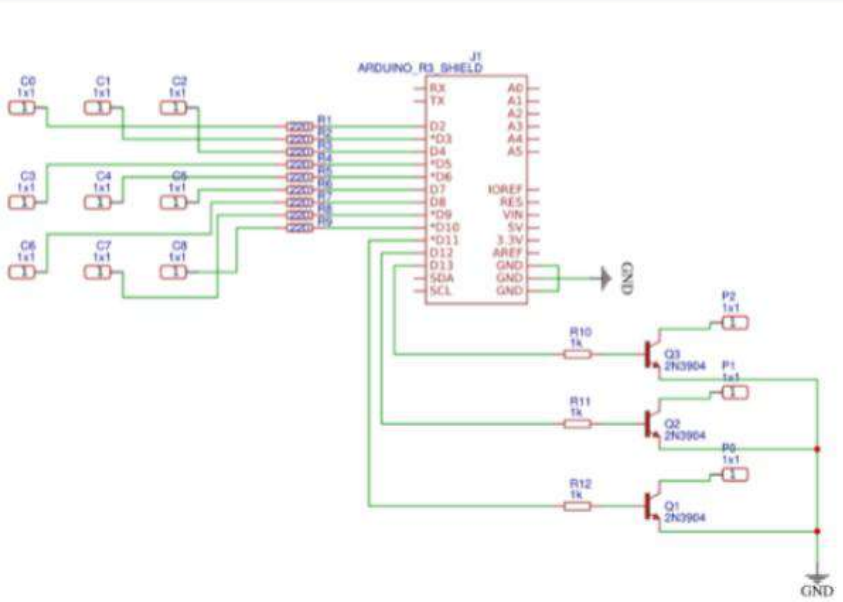
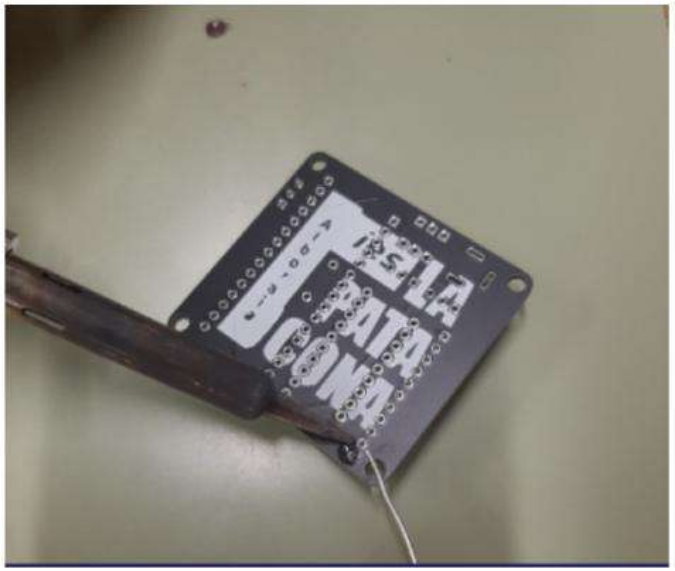
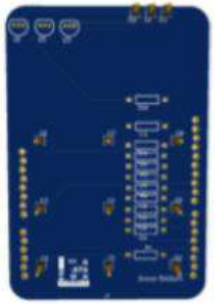
DISEÑO ELECTRÓNICO







EasyEDA

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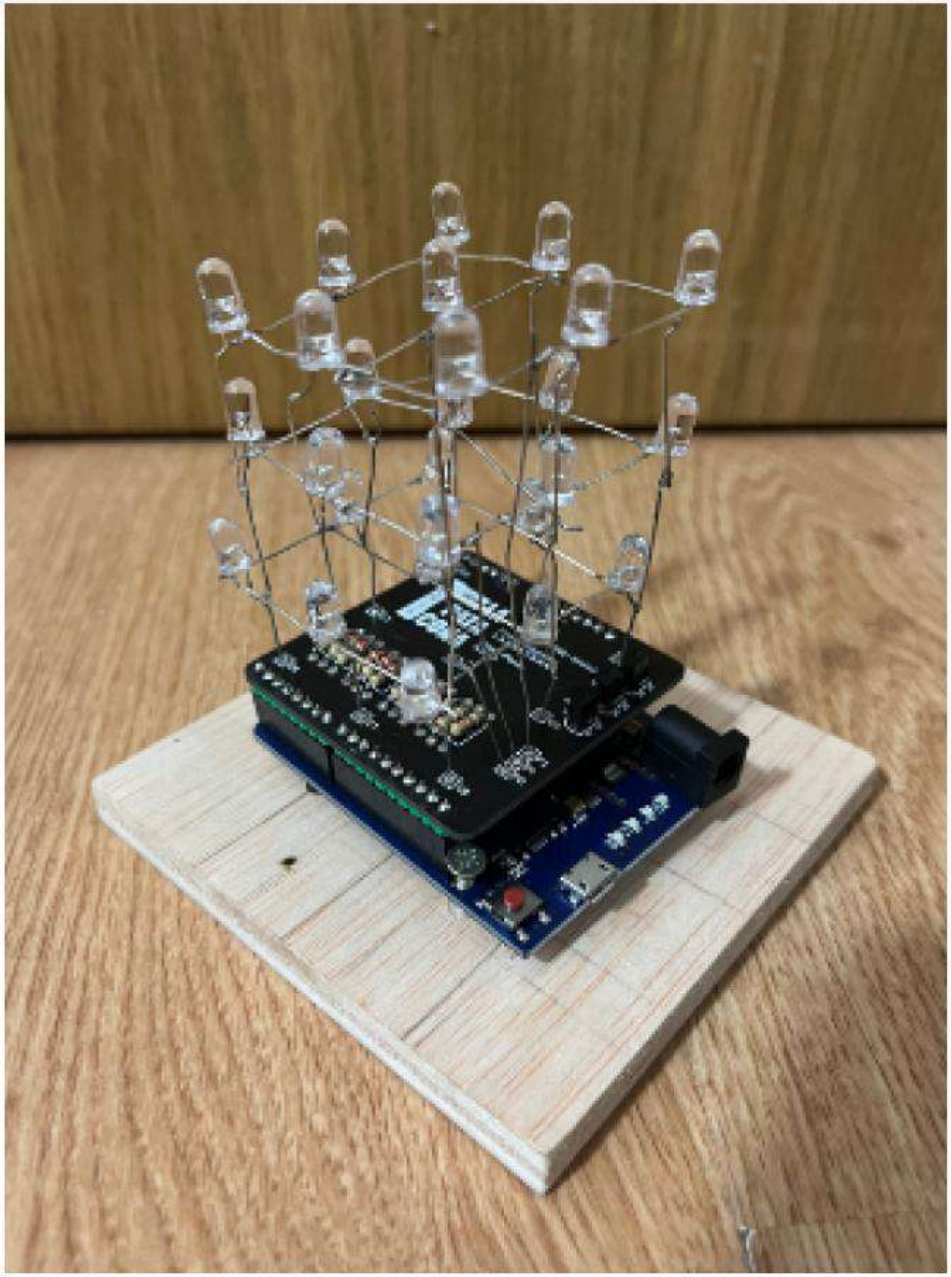
PROGRAMACIÓN

vumetro_MB

```
/*  Vúmetro
 *  IES La Patacona
 */

const int sensorPIN = A0;
const int modoPIN = 2;  // HIGH es modo alumno, LOW es modo vúmet
const int PINbajo = 4;
const int sampleWindow = 100; // Ancho ventana en ms (100 ms = 10Hz)
const int cuenta = 3; // Media temporal (3*100ms = 0,3 segundos)
const int minimo = 250;
const int maximo = 740;
const int niveles = 10;

int valores[cuenta];
int i = 0;
long int nivelSonido = 0;

void setup() {
  for (int j=0 ;j<niveles; j++) { pinMode(j+PINbajo, OUTPUT); }
  for (int j=0 ;j<cuenta; j++) { valores[j] = 0; }
  pinMode(modoPIN, INPUT);
}

void loop() {
  if (digitalRead(modoPIN)) {
    programaAlumno();
  } else {
    programaVumetro();
  }
}

void programaAlumno() {
  // Insertar aquí el programa del alumno
  digitalWrite(4, HIGH);
  delay(100); // Wait for 100 millisecond(s)
  digitalWrite(4, LOW);
  digitalWrite(5, HIGH);
  delay(100); // Wait for 100 millisecond(s)
  digitalWrite(5, LOW);
  digitalWrite(6, HIGH);
  delay(100); // Wait for 100 millisecond(s)
  digitalWrite(6, LOW);
  digitalWrite(7, HIGH);
  delay(100); // Wait for 100 millisecond(s)
```



MONTAJE Y PRUEBAS FINALES