// Define the pins used

int micPin = A0; // Use Analog pin 0 for the microphone

int ledPins[] = {2, 3, 4, 5, 6}; // Array of LED pins

// Variable for holding the mic value

int micValue;

int thresholds[] = {100, 200, 300, 400, 500}; // Thresholds for each LED

void setup()

{

  pinMode(micPin, INPUT); // Configures the microphone pin as an analog input

  Serial.begin(9600); // Initialize serial communication at 9600 bps

  for (int i = 0; i < 5; i++) {

    pinMode(ledPins[i], OUTPUT); // Configures each LED pin as output

  }

}

void loop()

{

  // Read the sound sensor value

  micValue = analogRead(micPin); // Use analogRead for an analog pin

  // Turn on LEDs based on the thresholds set for each

  for (int i = 0; i < 5; i++) {

    if (micValue > thresholds[i]) {

      digitalWrite(ledPins[i], HIGH);

      delay(150); // Add a 0.70 second delay after lighting each LED

    } else {

      digitalWrite(ledPins[i], LOW);

    }

  }

  // Optional: Print the mic value and LED status to the serial monitor for debugging

  Serial.print("Mic Value: ");

  Serial.println(micValue);

  for (int i = 0; i < 5; i++) {

    Serial.print("LED ");

    Serial.print(ledPins[i]);

    Serial.print(" is ");

    Serial.println(digitalRead(ledPins[i]) == HIGH ? "ON" : "OFF");

  }

}