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// C++ code
//
#define trigPin 4
#define echoPin 3
Int Buzzer = 5;
Int ledPin= 10;
Int duration, distance; //to measure the distance and time taken
Const int LEDPin = 13;

Const int buzzerPin = 2;

Const int ldrPin = A3;

Void setup()
{
    Serial.begin (9600);
    //Define the output and input objects(devices)
    pinMode(trigPin, OUTPUT);
    pinMode(echoPin, INPUT);
    pinMode(Buzzer, OUTPUT);
    pinMode(ledPin, OUTPUT);
    pinMode(LEDPin, OUTPUT);
    pinMode(buzzerPin, OUTPUT);
    pinMode(ldrPin, INPUT);
}
```

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Void loop()
{

    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);
    duration = pulseIn(echoPin, HIGH);
    distance = (duration/2) / 29.1;

    //when distance is greater than or equal to 200 OR less than or equal to 0,the buzzer and LED are off
    If (distance >= 200 || distance <= 0)
    {
        Serial.println("no object detected");
        digitalWrite(Buzzer,LOW);
        digitalWrite(ledPin,LOW);
    }
    Else
    {
        Serial.println("object detected \n");
        Serial.print("distance= ");
        Serial.print(distance);    //prints the distance if it is between the range 0 to 200
        Tone(Buzzer,400);          // play tone of 400Hz for 500 ms
        digitalWrite(ledPin,HIGH);
    }
}

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Int ldrStatus = analogRead(ldrPin);

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If (ldrStatus >= 400)
{

Tone(buzzerPin, 100);

digitalWrite(LEDPin, HIGH);

delay(100);

noTone(buzzerPin);

digitalWrite(LEDPin, LOW);

delay(100);

Serial.println("----- ALARM ACTIVATED -----");

}

Else
{

noTone(buzzerPin);

digitalWrite(LEDPin, LOW);

Serial.println("ALARM DEACTIVATED");

}
```

