

```
// C++ code
//
// variable for the distance measurement
#define trigPin 2
#define echoPin 4
int Buzzer = 1; // Connect buzzer pin to 8
int ledPin= 6; //Connect LEd pin to 6
int duration, distance; //to measure the distance and time taken

const int LedPin = 12;

const int buzzerPin = 3;

const int ldrPin = A3;
void setup()
{

pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
pinMode(Buzzer, OUTPUT);
pinMode(ledPin, OUTPUT);

Serial.begin(9600);

pinMode(ledPin, OUTPUT);

pinMode(buzzerPin, OUTPUT);

pinMode(ldrPin, INPUT);
```

```
}
```

```
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);
```

```
}
```

```
int ldrStatus = analogRead(ldrPin);
```

```
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");
```

```
}
```

```
}
```