

```
1. int ldrPin = A0;
   int ledPin = 9;
   int threshold = 500;
```

```
void setup() {
  pinMode(ledPin, OUTPUT);
  Serial.begin(9600);
}
```

```
void loop() {
  int ldrValue = analogRead(ldrPin);
  Serial.print("LDR Value :");
  Serial.println(ldrValue);
  if (ldrValue < threshold) {
    digitalWrite(ledPin, HIGH);
    Serial.println("Light is Low → LED ON");
  } else {
    digitalWrite(ledPin, LOW);
    Serial.println("Light is HIGH → LED OFF")
  }
  delay(500);
}
```

```
2. int gasPin = A0;
   int buzzer = 8;
   int gasLimit = 400;
```

```
void setup() {
  pinMode(buzzer, OUTPUT);
  Serial.begin(9600);
}
```

```
void loop() {
```



```

    if(gasValue > gasLimit) {
        digitalWrite(buzzer, HIGH);
        Serial.println("Gas Detected! Buzzer ON");
    } else {
        digitalWrite(buzzer, LOW);
        Serial.println("Safe Air");
    }
    delay(1000);
}

```

3.

```

int trigPin = 9;
int echoPin = 10;
int led = 6;

```

```

void setup() {
    pinMode(trigPin, OUTPUT);
    pinMode(echoPin, INPUT);
    pinMode(led, OUTPUT);
    Serial.begin(9600);
}

```

```

void loop() {
    long duration;
    int distance;

    digitalWrite(trigPin, LOW);
    delayMicrosecond(2);
    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);

    duration = pulseIn(echoPin, HIGH);
    distance = duration * 0.034 / 2;

    Serial.print("Distance:");
    Serial.print(distance);
    Serial.println("cm");

    if(distance < 10) {

```



```
Serial.println("object Near - LED ON");  
} else {  
  digitalWrite(led, LOW);  
  Serial.println("object far - LED OFF");  
}  
delay(1000);  
}
```

4.

```
int pirPin = 5;  
int device = 11;  
  
void setup() {  
  pinMode(pirPin, INPUT);  
  pinMode(device, OUTPUT);  
  Serial.begin(1000)  
}  
  
void loop() {  
  int motion = digitalRead(pirPin);  
  if(motion == HIGH) {  
    digitalWrite(device, HIGH);  
    Serial.println("Motion Detected - Device OFF");  
  } else {  
    digitalWrite(device, LOW);  
    Serial.println("No Motion - Device off");  
  }  
  delay(1000)  
}
```

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