```
//Light sensor

const int photoresistorPin = A0; // Analog pin connected to the photoresistor
const int ledNoLight = 2;   // Pin connected to LED indicating no light
const int ledMediumLight = 3;   // Pin connected to LED indicating medium light
const int ledBrightLight = 4;   // Pin connected to LED indicating bright light
void setup() {
  // Initialize serial communication
  Serial.begin(9600);
  // Initialize LED pins as outputs
  pinMode(ledNoLight, OUTPUT);
  pinMode(ledMediumLight, OUTPUT);
  pinMode(ledBrightLight, OUTPUT);}
void loop() {
  // Read the analog value from the photoresistor
  int lightLevel = analogRead(photoresistorPin);
  // Print the light level to the serial monitor
  Serial.print("Light Level: ");
  Serial.println(lightLevel);
  // Check light level and control LEDs accordingly
  if (lightLevel < 300) {
   // No light condition
   digitalWrite(ledNoLight, HIGH);
   digitalWrite(ledMediumLight, LOW);
   digitalWrite(ledBrightLight, LOW);} else if (lightLevel >= 300 && lightLevel < 600) {
   // Medium light condition
   digitalWrite(ledNoLight, LOW);
   digitalWrite(ledMediumLight, HIGH);
   digitalWrite(ledBrightLight, LOW);} else {
   // Bright light condition
   digitalWrite(ledNoLight, LOW);
   digitalWrite(ledMediumLight, LOW);
   digitalWrite(ledBrightLight, HIGH);}
  delay(500);
}
```
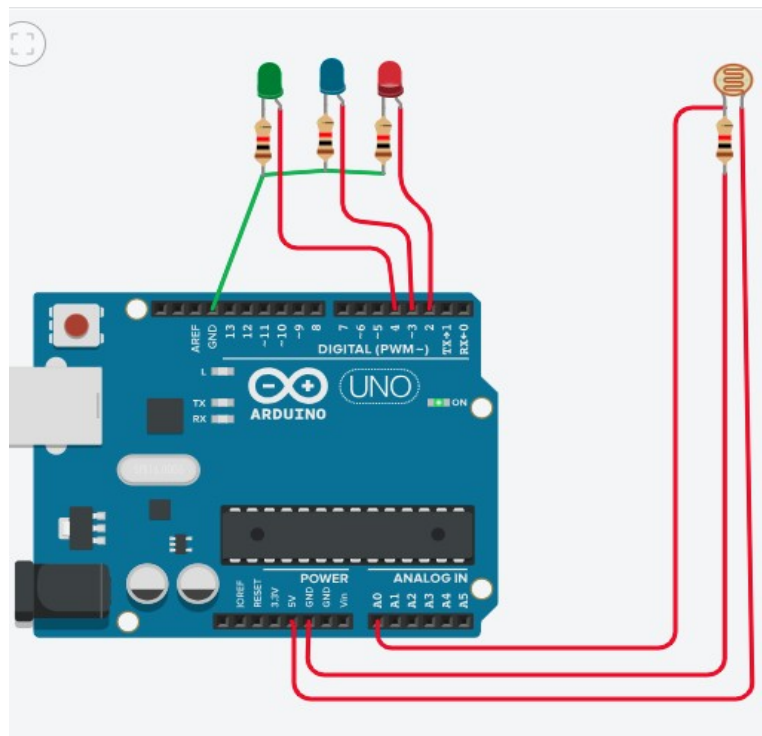
```
//temperature sensor

char degree = 176;
const int sensor =A1;
void setup(){
  pinMode(sensor,INPUT);
  Serial.begin(9600);
}
void loop(){
  int temp=analogRead(sensor);
  float vol=(temp *5.0)/1024;
  float cel=(vol-0.5)*100.0;
  Serial.print("temperature :");
  Serial.print(cel);
  Serial.print(degree);
  delay(1000);
  Serial.println();
}
```
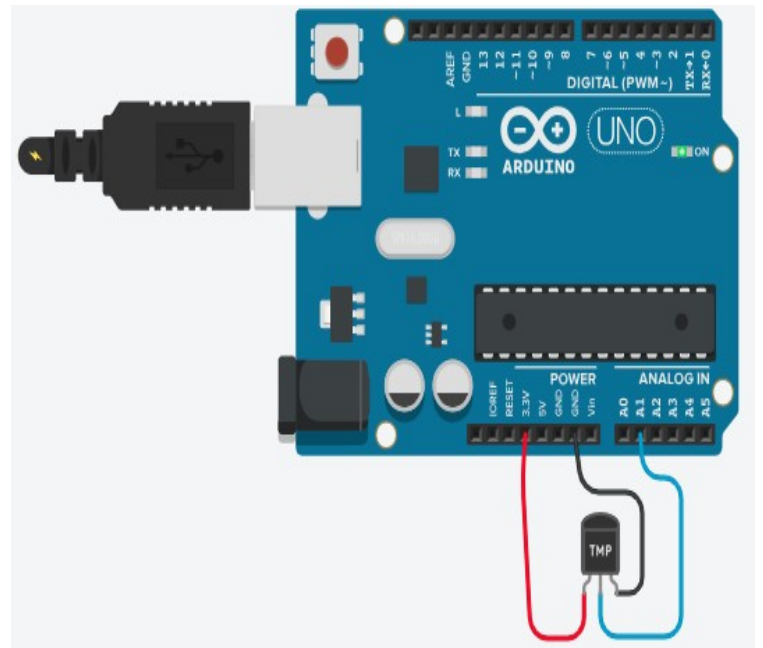


```
//humidity sensor

int input=A1;
int output=0;
void setup(){
  Serial.begin(9600);}
void loop(){
  output=analogRead(input);
  int per=map(output,0,1023,10,70);
  Serial.print("Humidity :");
  Serial.print(per);  Serial.println("%");
  delay(1000);
}
```
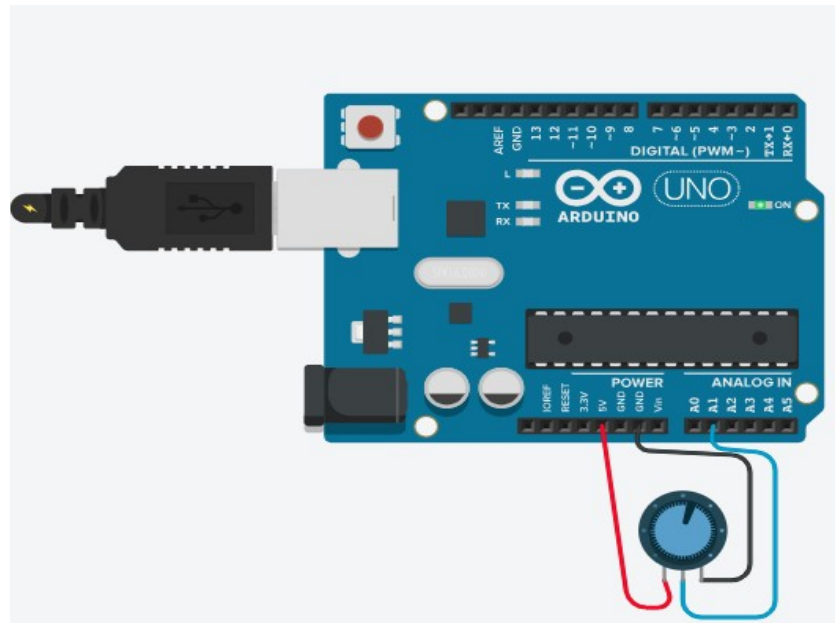


```
//ultrasonic sensor
int trigpin =9;
int echopin=10;
long duration;
int distance;
void setup(){
  Serial.begin(9600);
  pinMode(trigpin,OUTPUT);
  pinMode(echopin,INPUT);
}
void loop(){
  digitalWrite(trigpin,LOW);
  delayMicroseconds(2);
  digitalWrite(trigpin,HIGH);
  delayMicroseconds(10);
```
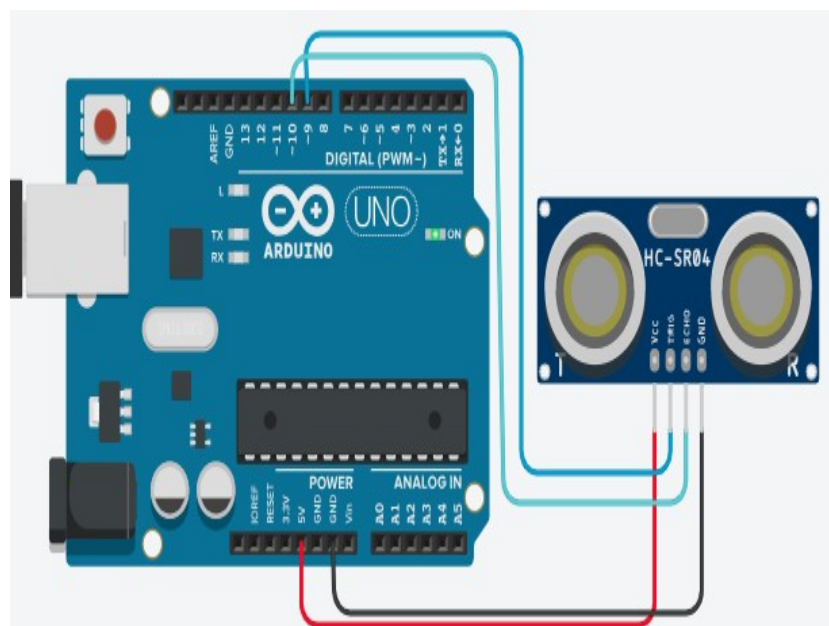
```
  digitalWrite(trigpin,LOW);

  duration=pulseIn(echopin,HIGH);
  distance = duration *0.034/2;
  Serial.print("Distance :");
  Serial.print(distance);
  Serial.println("cm");
  delay(1000);
}

//smoke detector
int LED_PIN =A1;
int SENSOR_PIN =A0;
int SMOKE_THRESHOLD =470;
void setup(){
  Serial.begin(9600);
  pinMode(LED_PIN,OUTPUT);
}
void loop(){
  int sensorvalue = analogRead(SENSOR_PIN);
  if(sensorvalue>=SMOKE_THRESHOLD){
    digitalWrite(LED_PIN,LOW);
    Serial.print("Smoke Detected ! Sensor value :");
    Serial.println(sensorvalue);
  }else{
    digitalWrite(LED_PIN,HIGH);
    Serial.print("Smoke Detected ! Sensor value :");
    Serial.println(sensorvalue);
  }
  delay(1000);
}
```



```
  //PIR SENSOR
int sensorState=0;
  void setup(){
  pinMode(2,INPUT);
  pinMode(LED_BUILTIN,OUTPUT);
}
void loop(){
  sensorState=digitalRead(2);
  if(sensorState ==HIGH){
    digitalWrite(LED_BUILTIN,HIGH);
  }else{
      digitalWrite(LED_BUILTIN,LOW);
  }
delay(1000);
}
```