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MQ-8 Hydrogen Gas Sensor

Introduction:

A MQ-8 Hydrogen Gas Sensor is a gas detector that detects the presence of hydrogen. They contain micro-fabricated point-contact hydrogen sensors and are used to locate hydrogen leaks. The MQ-8 can detect hydrogen gas concentrations anywhere from 100-10000ppm. This sensor has a high sensitivity and fast response time. They are considered low-cost, compact, durable, and easy to maintain as compared to conventional gas detecting instruments. This is a simple-to-use hydrogen gas sensor, suitable for sensing hydrogen concentrations in the air.

Components:

- Arduino Uno Board (1)
- MQ-8 Hydrogen Gas Sensor (1)
- USB Cable
- Several Jumper Wires

Objectives:

To detects the presence of hydrogen gas.

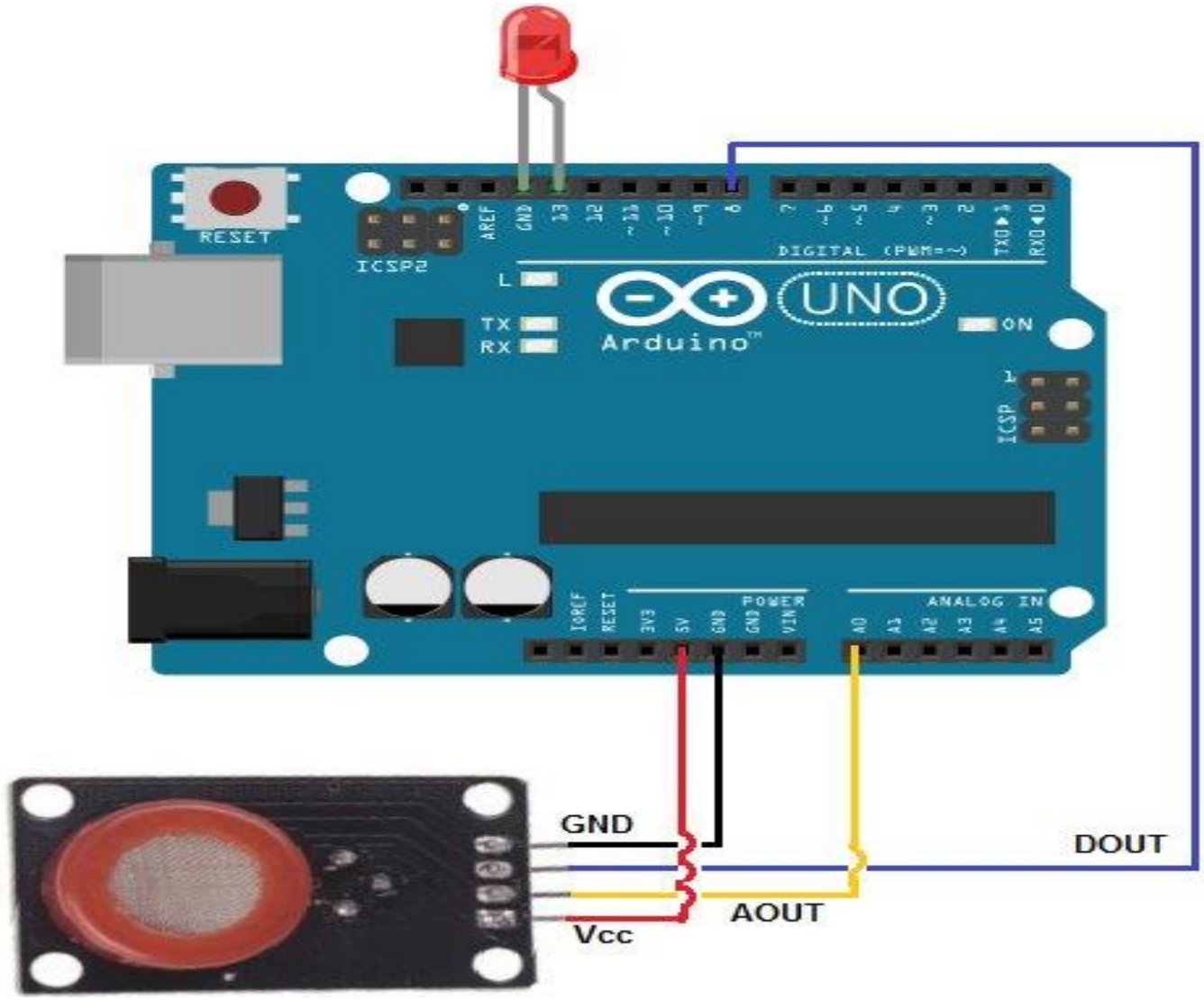
Procedures:

Step 1: Build the circuit.

The connection between the MQ-8 Hydrogen Gas Sensor and the Arduino Uno Board:

MQ-8 Hydrogen Gas Sensor	Arduino Uno
VCC	5V
GND	GND
A0	A0

LED	Arduino Uno
POSITIVE (+)	13



NEGATIVE (-)	GND

Step 2: Insert the sample programming provided below by copy and paste it into Arduino IDE.

```
/* MQ-8 Hydrogen Gas Sensor Circuit with Arduino */

const int AOUTpin=0;//the AOUT pin of the hydrogen sensor goes into analog pin A0 of the arduino
const int DOUTpin=8;//the DOUT pin of the hydrogen sensor goes into digital pin D8 of the arduino
const int ledPin=13;//the anode of the LED connects to digital pin D13 of the arduino

int limit;
int value;

void setup() {
Serial.begin(115200);//sets the baud rate
pinMode(DOUTpin, INPUT);//sets the pin as an input to the arduino
pinMode(ledPin, OUTPUT);//sets the pin as an output of the arduino
}

void loop()
{
value= analogRead(AOUTpin);//reads the analaog value from the hydrogen sensor's AOUT pin
limit= digitalRead(DOUTpin);//reads the digital value from the hydrogen sensor's DOUT pin
Serial.print("Hydrogen value: ");
Serial.println(value);//prints the hydrogen value
Serial.print("Limit: ");
Serial.print(limit);//prints the limit reached as either LOW or HIGH (above or underneath)
delay(100);
if (limit == HIGH){
digitalWrite(ledPin, HIGH);//if limit has been reached, LED turns on as status indicator
}
else{
digitalWrite(ledPin, LOW);//if threshold not reached, LED remains off
}
}
```

Step 3: Open the serial monitor to observe the result as shown below.