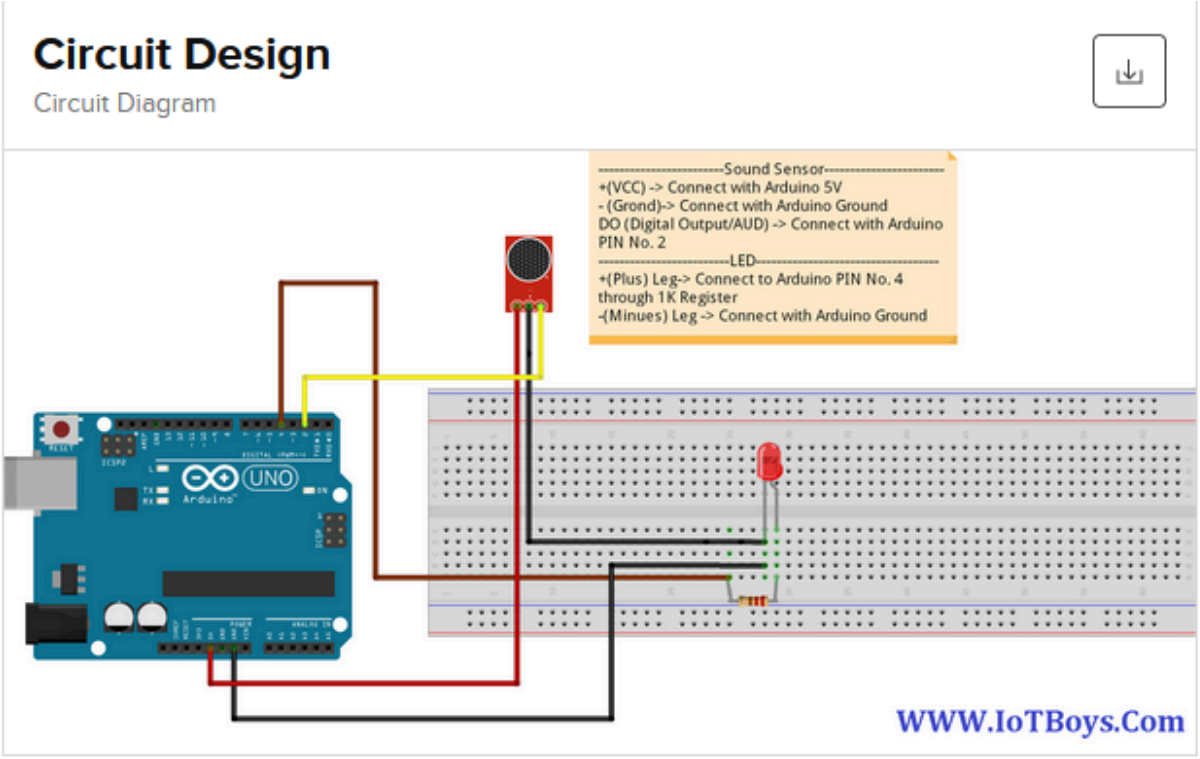
4) An experiment to control LED by clapping using Sound SensorKY038

Components

1. KY038SoundSensor: Detects sound vibrations and outputs a corresponding electrical signal.
2. Arduino Uno: Microcontroller used to process the sensor signal and control the LED.
3. LED: Acts as the output device, which will be controlled by the sound sensor. 4. Resistors: Used to limit current to the LED.
5. Breadboard and Jumper Wires: For circuit assembly.



Code :

```
int soundSensor=2;
int LED=4;
boolean LEDStatus=false;

void setup() {
 pinMode(soundSensor,INPUT);
 pinMode(LED,OUTPUT);

}

void loop() {
```

```
 int SensorData=digitalRead(soundSensor);
 if(SensorData==1){

   if(LEDStatus==false){
      LEDStatus=true;
      digitalWrite(LED,HIGH);
   }
   else{
      LEDStatus=false;
      digitalWrite(LED,LOW);
   }
 }
}
```