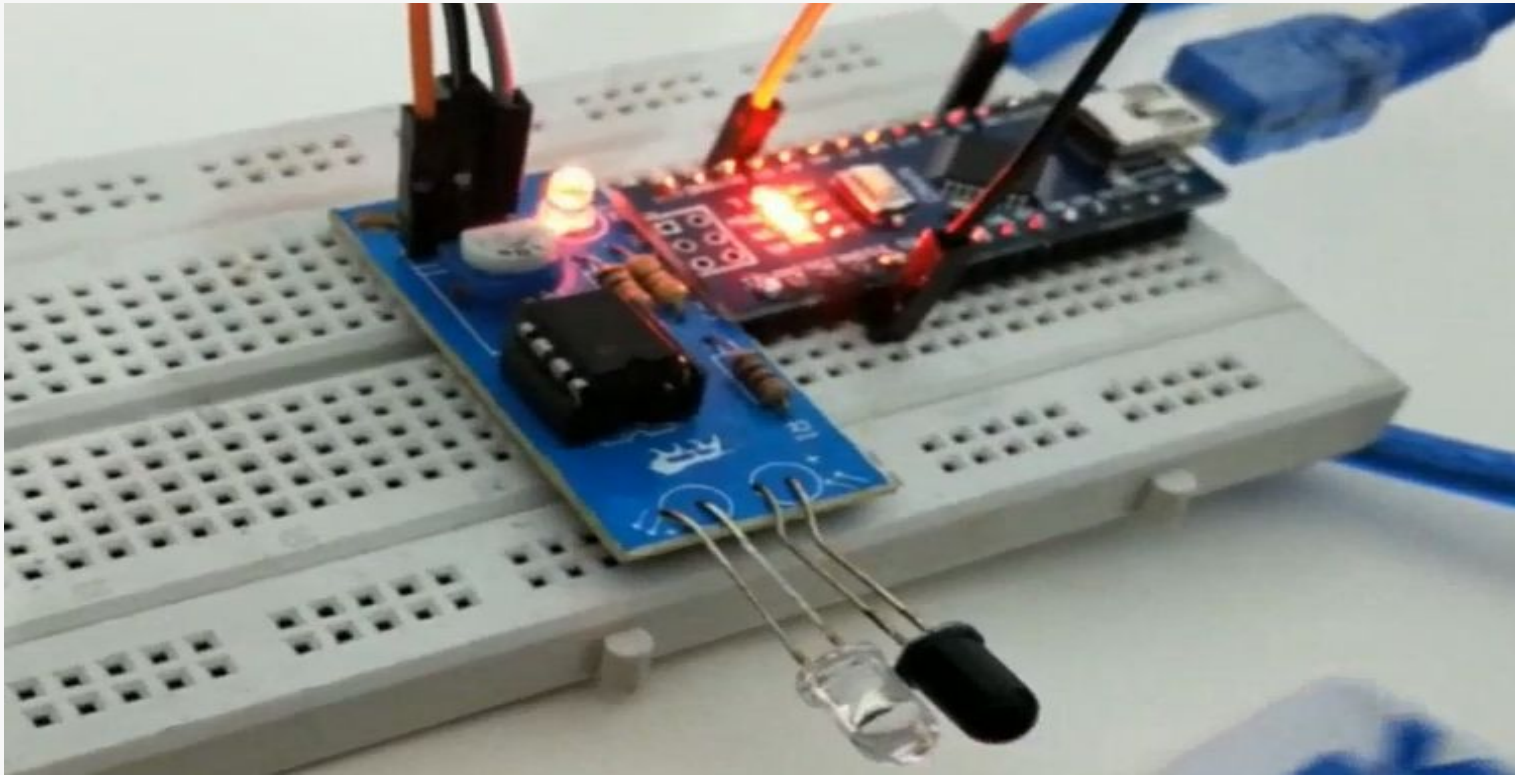# Interfacing of Analog IR Sensor

Analog IR Sensor

An IR sensor is an electronic instrument that scans IR signals in specific frequency ranges defined by standards and converts them to electric signals on its output pin (typically called signal pin).

An Infrared light emitting diode (IR LED) is a special purpose LED emitting infrared rays ranging from 700 nm to 1 mm wavelength.
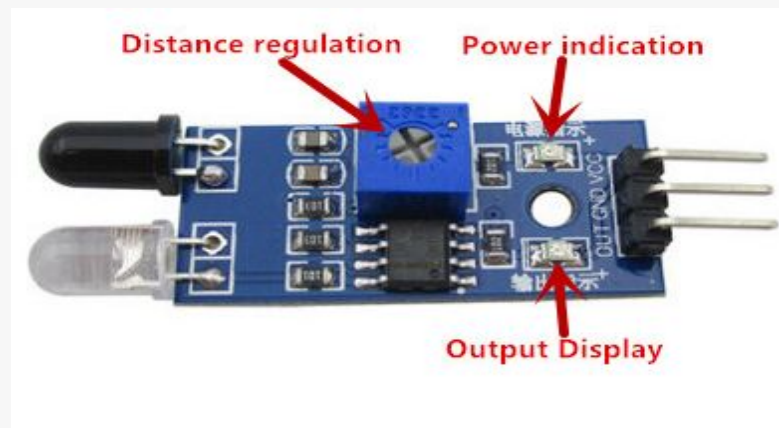
Working principle of Analog IR sensor

- An IR sensor consists of two parts, the emitter circuit and the receiver circuit.

- The emitter is an IR LED and the detector is an IR photodiode. The IR photodiode is sensitive to the IR light emitted by an IR LED.

- The type of incidence can be direct incidence or indirect incidence. In direct incidence, the IR LED is placed in front of a photodiode with no obstacle in between. In indirect incidence, both the diodes are placed side by side with an opaque object in front of the sensor.

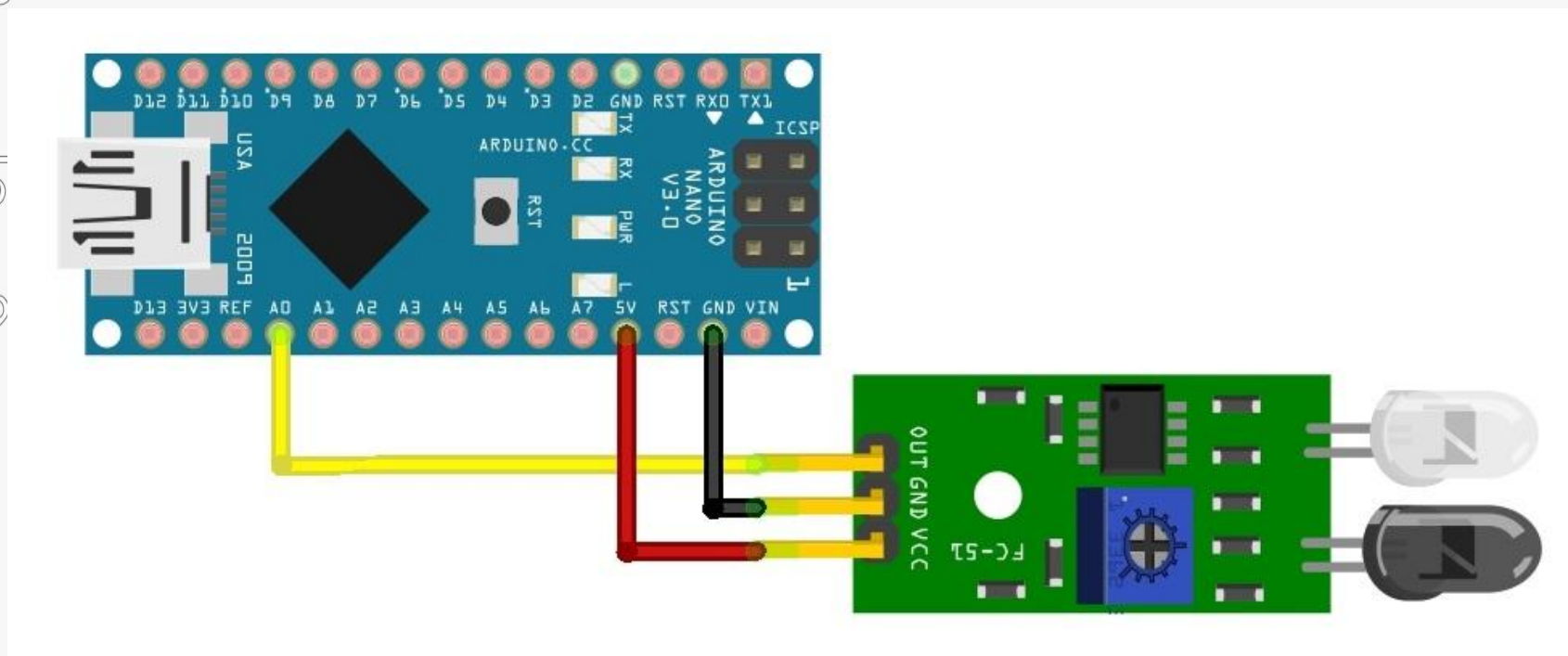- The light from the IR LED hits the opaque surface and reflects back to the photodiode.

Working Diagram
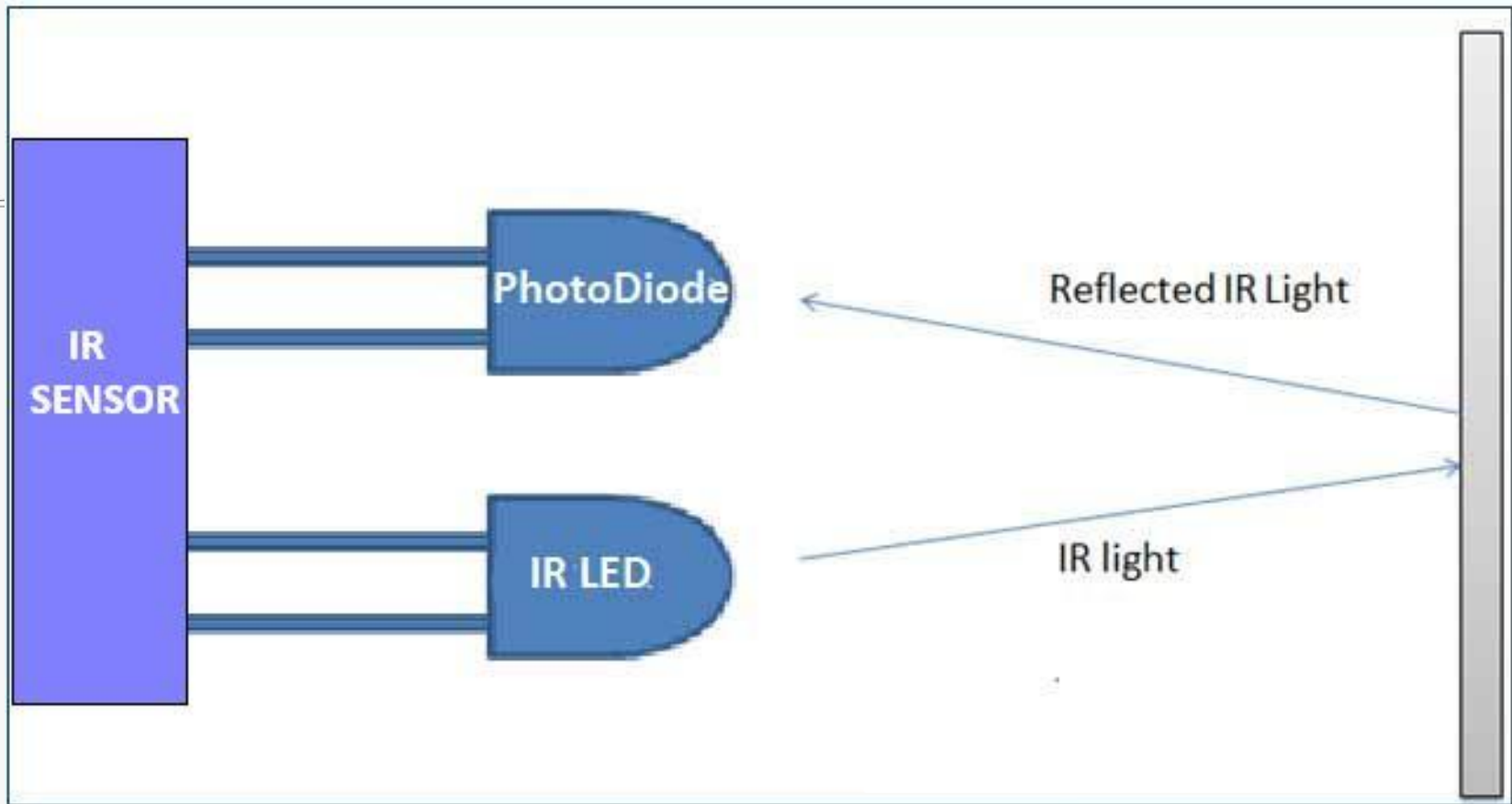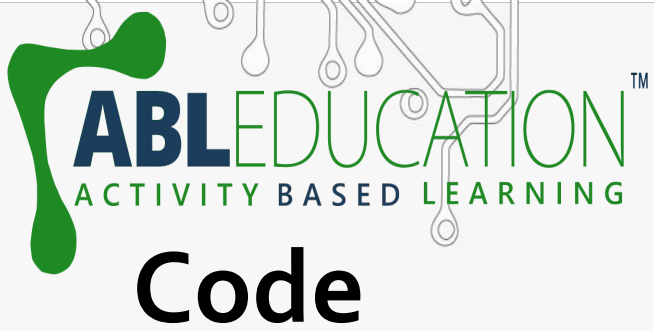
Components Required

- Arduino Nano
- Analog IR Sensor
- Jumper wires

Connection Diagram

Connections

1. Connect OUT pin of Analog IR sensor with Ao pin of Arduino Nano.
2. Connect Vcc pin of Analog IR sensor with 5V of Arduino Nano.
3. Connect GND pin of Analog IR sensor with GND of Arduino Nano.

Code

```
int x;

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
pinMode(5,OUTPUT);
pinMode(A0,INPUT);
}

void loop() {
  // put your main code here, to run repeatedly:
  x=digitalRead(A0);
if(x==0){
digitalWrite(5,0);
Serial.println("clear");
}
else{
digitalWrite(5,1);
Serial.println("obstacle");


}
}
```

Project Link: https://youtu.be/_9Ef7GAA5Wc