Project 13

IR array interfacing

An infrared sensor is an electronic module which is used to sense certain physical appearance of its surroundings by either emitting and/or detecting infrared radiation. IR sensors are also capable of determining the heat being emitted by an object and detecting motion. Now lets learn the interfacing of IR Sensor and Arduino.

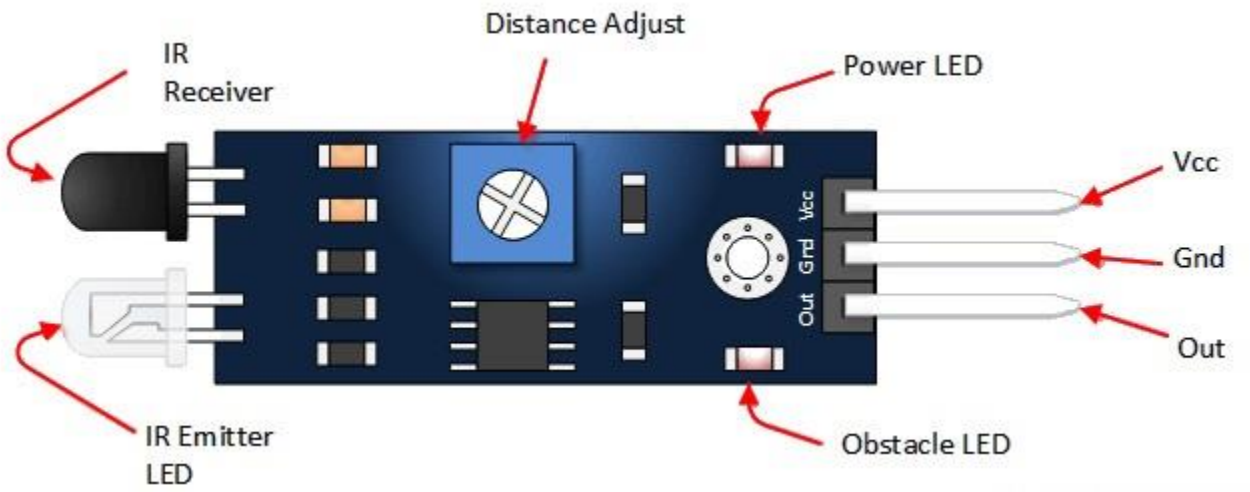
IR SENSOR WORKING:

Here we are using an IR sensor for detecting obstacles. IR transmitter transmits IR signal, as that signal detects any obstacle in its path, the transmitted IR signal reflects back from the obstacle and received by the receiver.

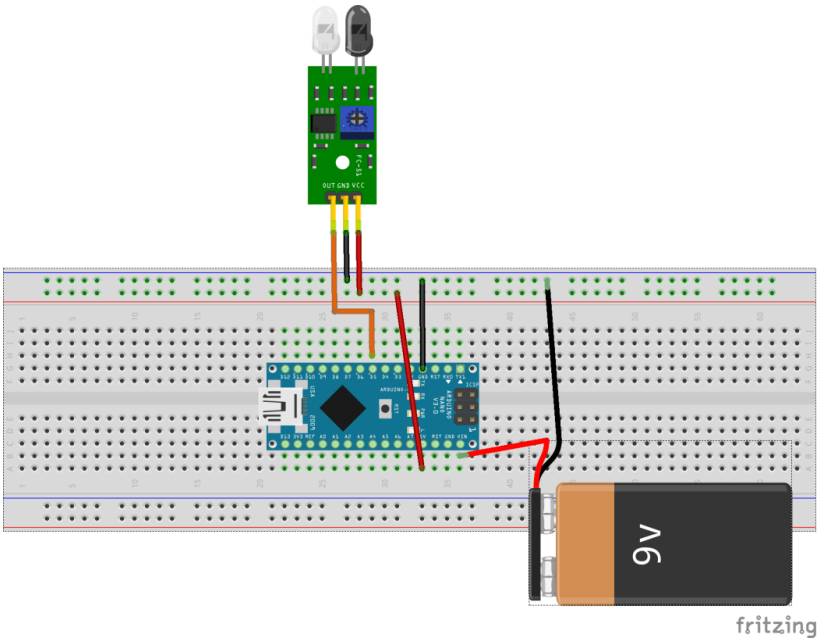
This is similar to the topic Interface of Switch as an input to Arduino board and gets output, but here we replace the switch with an IR sensor. This is like an automatic switch which gives signal on obstacle detection.

PINOUT:

1. VCC: 3.3V-5V power input pin
2. GND: 0V power pin
3. OUT: Digital Output Pin



Make circuit connection as shown



CODE

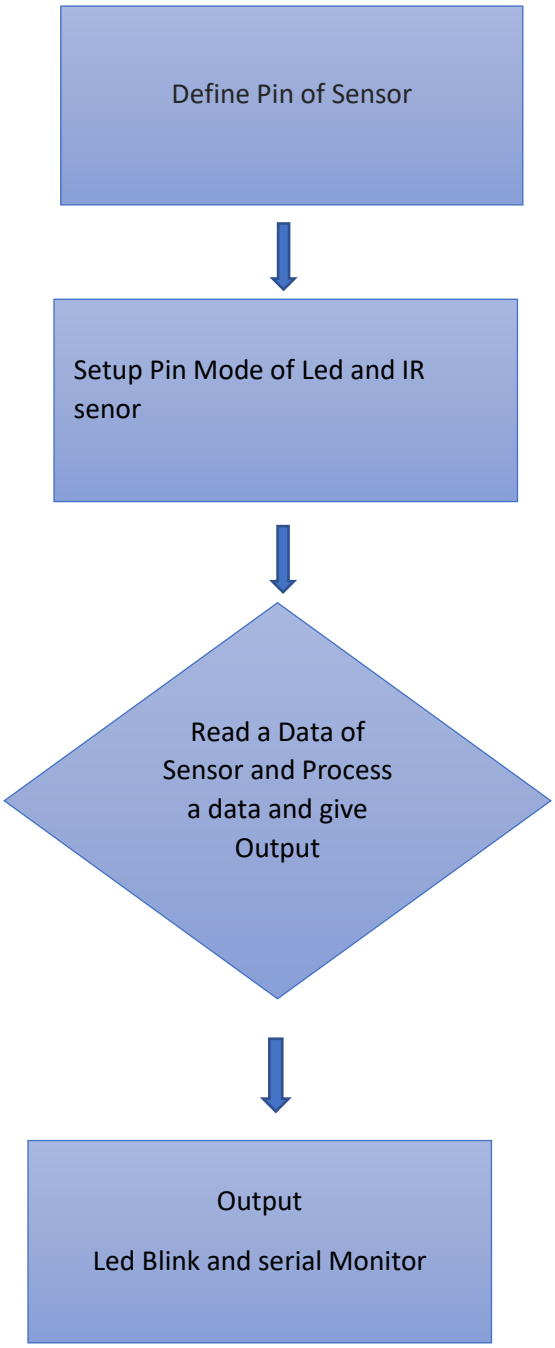
```
int LEDpin = 13;
int obstaclePin = 10;
int hasObstacle = LOW;  // LOW MEANS NO OBSTACLE

void setup() {
  pinMode(LEDpin, OUTPUT);
  pinMode(obstaclePin, INPUT);
  Serial.begin(9600);
}

void loop() {
  hasObstacle = digitalRead(obstaclePin);

  if (hasObstacle == HIGH) {
    Serial.println("Stop something is ahead!!");
    digitalWrite(LEDpin, HIGH);
  }
  else {
    Serial.println("Path is clear");
    digitalWrite(LEDpin, LOW);
  }
  delay(200);
}
```

Flow Chart :-


Define Pin of Sensor
Setup Pin Mode of Led and IR senor
Read a Data of Sensor and Process a data and give Output
Output
Led Blink and serial Monitor