Exp no 6: write a program to interface IR sensor with arduino using IOT cloud application.

Procedure:

1. file->preferences ->additional boards manager URLs arduino.esp8266 link is copied.

http://arduino.esp8266.com/stable/package\_esp8266com\_index.json

1. Sketch->include library->manage library->thing speak library install.
2. Tools->board node mcu1.0 ->board manager ->ESP8266 install.
3. File->Examples->Thingspeak->ESP8266->program board directly->write single field.
4. Tools->board node MCU1.0->board manager->node MCU1.0 is selected.
5. Tools->board node MCU1.0->board manager->Arduino uno is selected.
6. Tools->port is selected.

Pin connection Irsensor:

Vcc- vin

GND-GND

Data-D5

#include <ESP8266WiFi.h>

#include "secrets.h"

#include "ThingSpeak.h" // always include thingspeak header file after other header files and custom macros

char ssid[] = SECRET\_SSID; // your network SSID (name)

char pass[] = SECRET\_PASS; // your network password

int keyIndex = 0; // your network key Index number (needed only for WEP)

WiFiClient client;

unsigned long myChannelNumber = SECRET\_CH\_ID;

const char \* myWriteAPIKey = SECRET\_WRITE\_APIKEY;

int number = 0;

const int irPin=D5;

void setup() {

Serial.begin(115200); // Initialize serial

while (!Serial) {

; // wait for serial port to connect. Needed for Leonardo native USB port only

}

WiFi.mode(WIFI\_STA);

ThingSpeak.begin(client); // Initialize ThingSpeak

}

void loop() {

// Connect or reconnect to WiFi

if(WiFi.status() != WL\_CONNECTED){

Serial.print("Attempting to connect to SSID: ");

Serial.println(SECRET\_SSID);

while(WiFi.status() != WL\_CONNECTED){

WiFi.begin(ssid, pass); // Connect to WPA/WPA2 network. Change this line if using open or WEP network

Serial.print(".");

delay(5000);

}

Serial.println("\nConnected.");

}

// Write to ThingSpeak. There are up to 8 fields in a channel, allowing you to store up to 8 different

// pieces of information in a channel. Here, we write to field 1.

int x = ThingSpeak.writeField(myChannelNumber, 1, number, myWriteAPIKey);

if(x == 200){

Serial.println("Channel update successful.");

}

else{

Serial.println("Problem updating channel. HTTP error code " + String(x));

}

// change the value

number++;

if(number > 99){

number = 0;

}

delay(20000); // Wait 20 seconds to update the channel again

}

// Use this file to store all of the private credentials

// and connection details

#define SECRET\_SSID "Redmi Note 11 Pro+ 5G" // replace MySSID with your WiFi network name

#define SECRET\_PASS "mani@123" // replace MyPassword with your WiFi password

#define SECRET\_CH\_ID 2038959 // replace 0000000 with your channel number

#define SECRET\_WRITE\_APIKEY "7W61L6N4VY7ZFBZP" // replace XYZ with your channel write API Key