**Arduino Code for Smart Street Light :**

#include <ESP8266WiFi.h>;  
#include <WiFiClient.h>;  
#include <ThingSpeak.h>;

const char\* ssid = "CircuitLoop";  
const char\* password = "circuitdigest101";

WiFiClient client;

unsigned long myChannelNumber = 795820;  
const char \* myWriteAPIKey = "FZTOUARV558GRZ8J";  
const char \* myReadAPIKey = "T52GT3QQOQBVPG4V";

int led\_1;  
int led\_2;  
int led\_3;

int ir1 = D0;  
int led1 = D5;

int ir2 = D1;  
int led2 = D6;

int ir3 = D2;  
int led3 = D7;

int ldr = A0;  
int val =0;

void setup() {  
  Serial.begin(9600);  
  delay(10);  
  pinMode(ir1,INPUT);  
  pinMode(led1,OUTPUT);

  pinMode(ir2,INPUT);  
  pinMode(led2,OUTPUT);

  pinMode(ir3,INPUT);  
  pinMode(led3,OUTPUT);

  WiFi.begin(ssid, password);  
  ThingSpeak.begin(client);  
}

void loop() {  
  int s1 = digitalRead(ir1);  
  int s2 = digitalRead(ir2);  
  int s3 = digitalRead(ir3);  
  s3 = not(s3);

  val = analogRead(ldr);

  Serial.print(s1);  
  Serial.print(":");  
  Serial.print(s2);  
  Serial.print(":");  
  Serial.print(s3);  
  Serial.print("  ");  
  Serial.println(val);  
  if(val<800){  
    if(s1==0){  
      digitalWrite(led1,LOW);

  }  
    else{  
      digitalWrite(led1,HIGH);  
    }  
    if(s2==0)    {  
      digitalWrite(led2,LOW);  
    }  
    else  {  
      digitalWrite(led2,HIGH);  
    }

    if(s3==0) {  
      digitalWrite(led3,LOW);  
    }  
    else  {  
      digitalWrite(led3,HIGH);  
    }  }  
  else{  
    digitalWrite(led1,LOW);  
    digitalWrite(led2,LOW);  
    digitalWrite(led3,LOW);  
  }

  ThingSpeak.writeField(myChannelNumber, 1,val, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 2,s1, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 3,s2, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 4,s3, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 5,led1, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 6,led2, myWriteAPIKey);  
  ThingSpeak.writeField(myChannelNumber, 7,led3, myWriteAPIKey);

  led\_1 = ThingSpeak.readIntField(myChannelNumber, 5, myReadAPIKey);  
  led\_2 = ThingSpeak.readIntField(myChannelNumber, 6, myReadAPIKey);  
  led\_3 = ThingSpeak.readIntField(myChannelNumber, 7, myReadAPIKey);

  if(led\_1==1)  {  
    digitalWrite(led1,HIGH);  
  }  
  else {  
    digitalWrite(led1,LOW);  
  }

  if(led\_2==1) {  
    digitalWrite(led2,HIGH);  
  }  
  else {  
    digitalWrite(led2,LOW);  
  }

  if(led\_3==1){  
    digitalWrite(led3,HIGH);  
  }  
  else{  
    digitalWrite(led3,LOW);  
  } }