

Course Code	:	18PYB101J	Course Title	:	Physics: Electromagnetic Theory, Quantum Mechanics, Waves and Optics
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TITLE OF THE PROJECT:

SMART STREET LIGHT USING IR SENSORS WITH ARDUINO
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Smart Street Light Using IR Sensor with Arduino

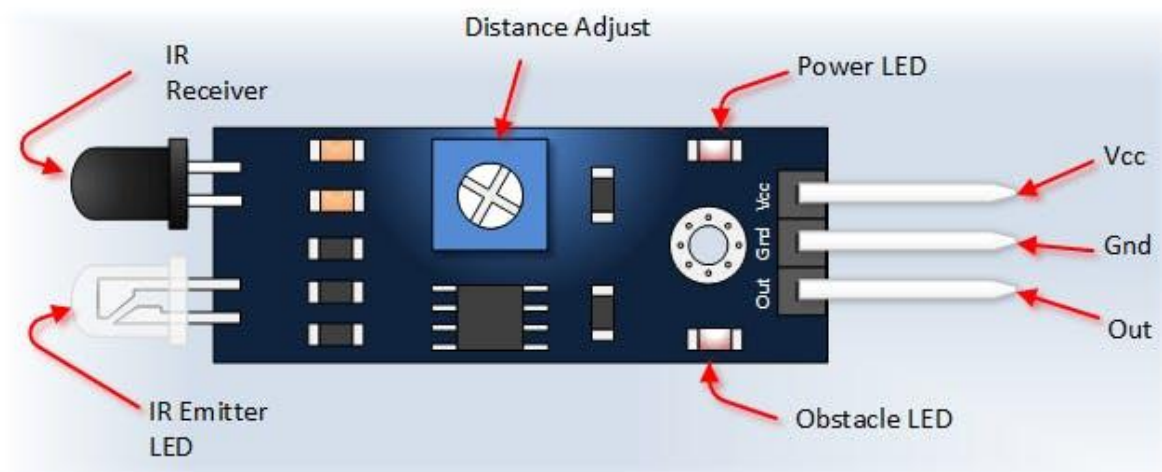
This project is about smart street light, street light will turn on while vehicle is passing through it.

This project is about Smart street light, street light will turn on while vehicle is passing through it. here we are using 4 IR sensors that sense the position of the vehicle, each IR sensor controls 3 LED's. When vehicle passes by a particular IR sensor it senses the position of vehicle and gives its signal to the arduino board and it will turn on the LED's.

ADVANTAGES:

If we use this idea and implement it in our society it will be helpful in saving enough amount of electricity and off-course money.

Step 1: Components Required

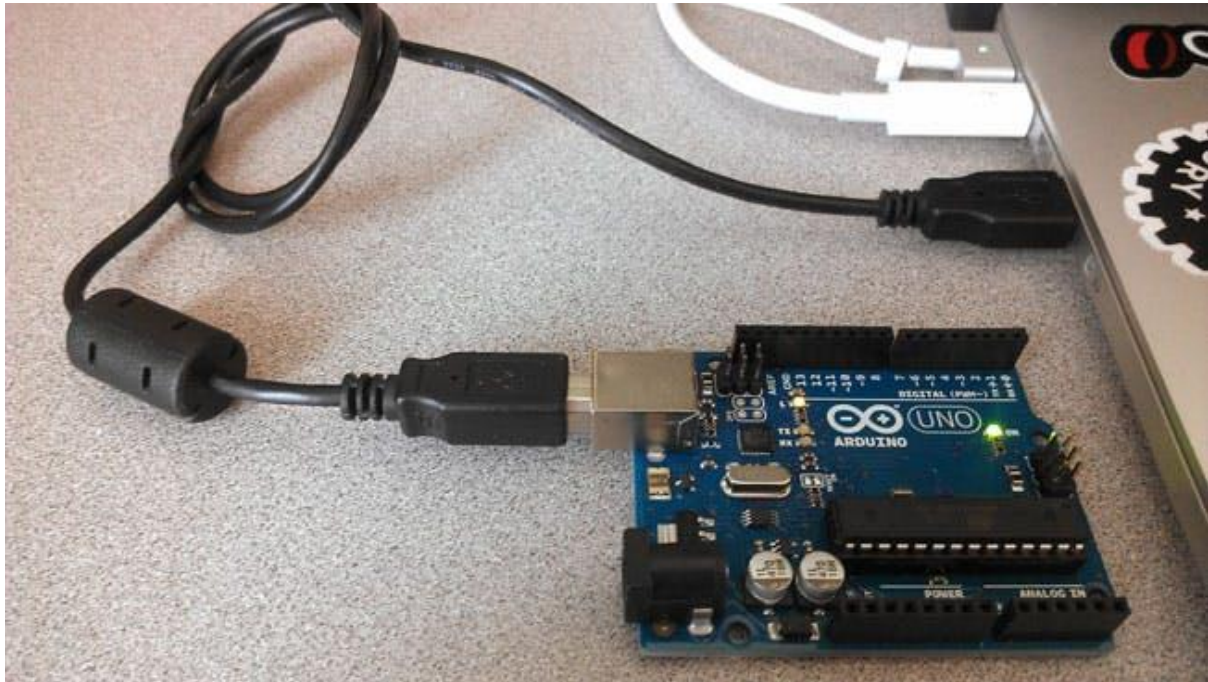




PREVIOUSNEXT

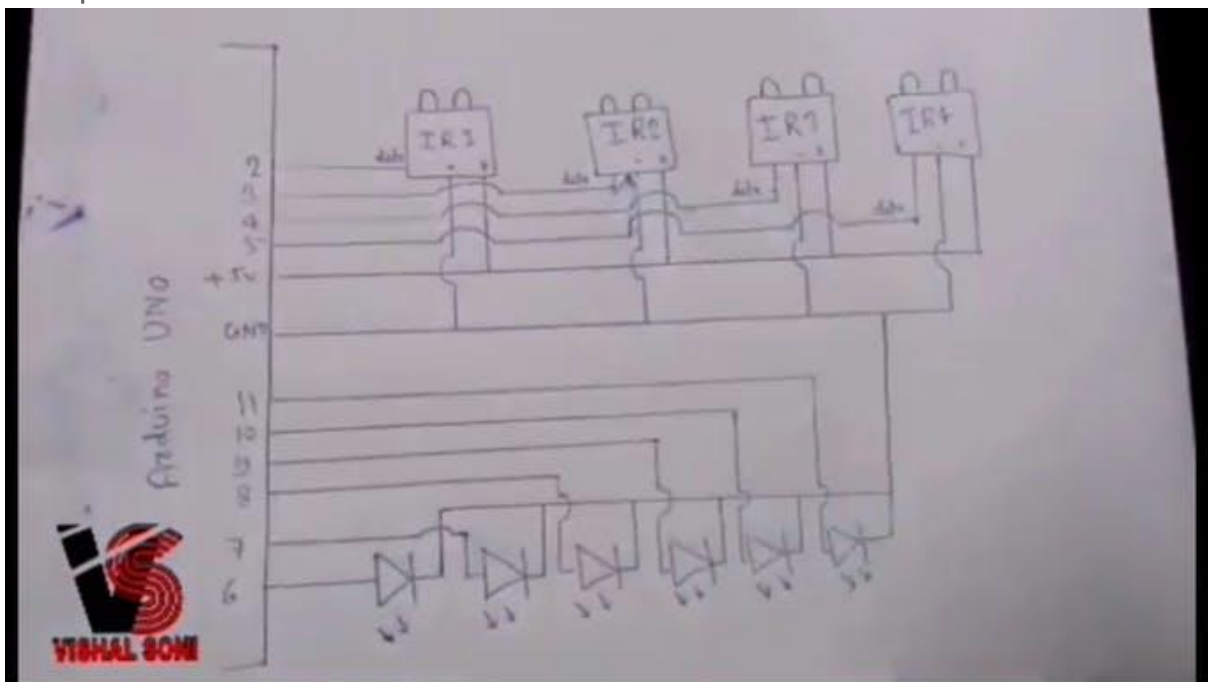
- 1
 - 2
 - 3
- arduino uno
 - ir sensor (4)
 - 10mm LEDs (6)
 - connecting wire
 - foam board

Step 2: Upload the Program



download and upload the program in arduino uno

Step 3: Connect the Circuit



Connect all the components as given in the circuit diagram.

ir sensor 1 ---> 2

ir sensor 2 ---> 3

ir sensor 3 ---> 4

ir sensor 4 ---> 5

connect all ir sensor's to +5v and ground.

the positive pin of leds are connected to these pins of arduino.

led 1 -----> 6

led 2 -----> 7

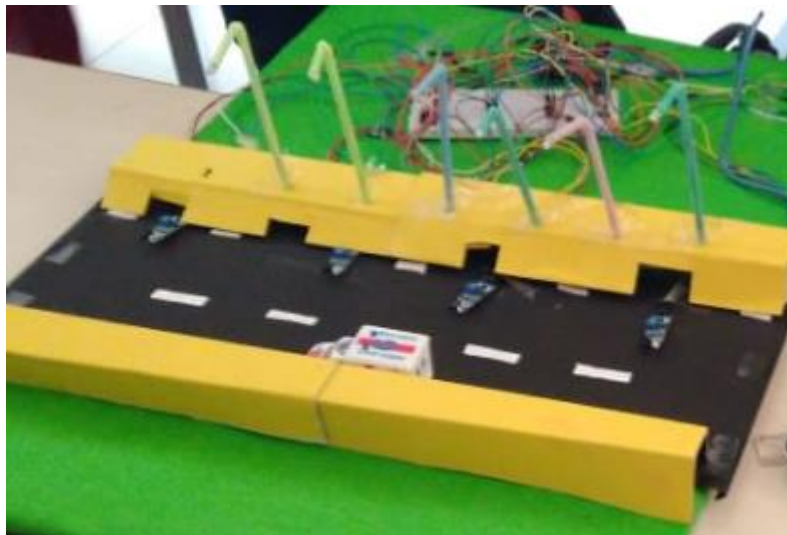
led 3 -----> 8 led 4 -----> 9

led 5 -----> 10

led 6 -----> 11

and finally all ground pins of led connect to the ground of arduino.

Step 4: Build Suitable Structure





To make these poles as given in above picture, use foam board and glue.
and you may also use black chart to make a road and wooden board for the
base of pole.

CODE:-

```
int ir1=2;  
int ir2=3;  
int ir3=4;  
int ir4=5;  
  
int led1=6;  
int led2=7;  
int led3=8;  
int led4=9;  
int led5=10;  
int led6=11;
```

```
int proxy1=0;
int proxy2=0;
int proxy3=0;
int proxy4=0;
void setup()
{
  pinMode(ir1,INPUT);
  pinMode(ir2,INPUT);
  pinMode(ir3,INPUT);
  pinMode(ir4,INPUT);

  pinMode(led1,OUTPUT);
  pinMode(led2,OUTPUT);
  pinMode(led3,OUTPUT);
  pinMode(led4,OUTPUT);
  pinMode(led5,OUTPUT);
  pinMode(led6,OUTPUT);
}
```

```
void loop(){
  proxy1=digitalRead(ir1);
  proxy2=digitalRead(ir2);
  proxy3=digitalRead(ir3);
  proxy4=digitalRead(ir4);
```

```
  if(proxy1==HIGH)
  {
    digitalWrite(led1,HIGH);
    digitalWrite(led2,HIGH);
    digitalWrite(led3,HIGH);
  }
```

```
  else
  {
    digitalWrite(led1,LOW);
    digitalWrite(led2,LOW);
    digitalWrite(led3,LOW);
  }
```

```
  if(proxy2==HIGH)
  {
    digitalWrite(led2,HIGH);
    digitalWrite(led3,HIGH);
    digitalWrite(led4,HIGH);
  }
```

```
  else
```

```
{  
  digitalWrite(led2,LOW);  
  digitalWrite(led3,LOW);  
  digitalWrite(led4,LOW);  
}
```

```
if(proxy3==HIGH)  
{  
  digitalWrite(led3,HIGH);  
  digitalWrite(led4,HIGH);  
  digitalWrite(led5,HIGH);  
}
```

```
else  
{  
  digitalWrite(led3,LOW);  
  digitalWrite(led4,LOW);  
  digitalWrite(led5,LOW);  
}
```

```
if(proxy4==HIGH)  
{  
  digitalWrite(led4,HIGH);  
  digitalWrite(led5,HIGH);  
  digitalWrite(led6,HIGH);  
}
```

```
else  
{  
  digitalWrite(led4,LOW);  
  digitalWrite(led5,LOW);  
  digitalWrite(led6,LOW);  
}  
}
```