V.S.B. Engineering College

Department of Computer Science

And Engineering

IOT Assignment

Topic: Assignment On Home Automation Using Arduino

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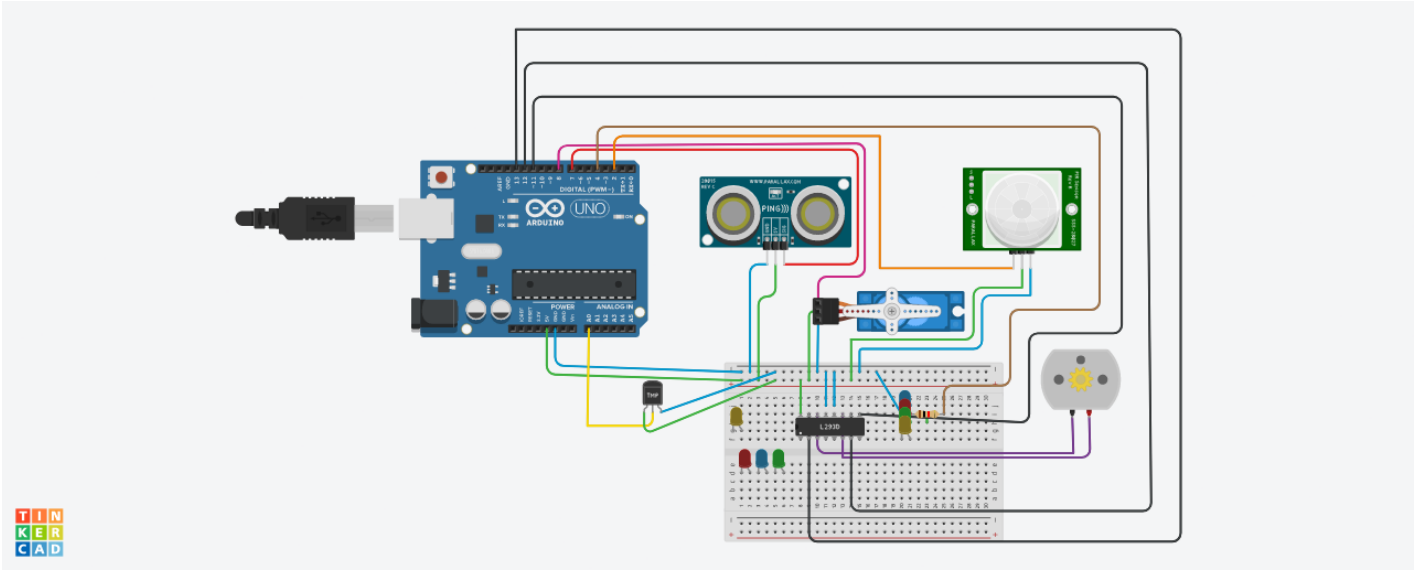
CIRCUIT DIAGRAM:



CODE:

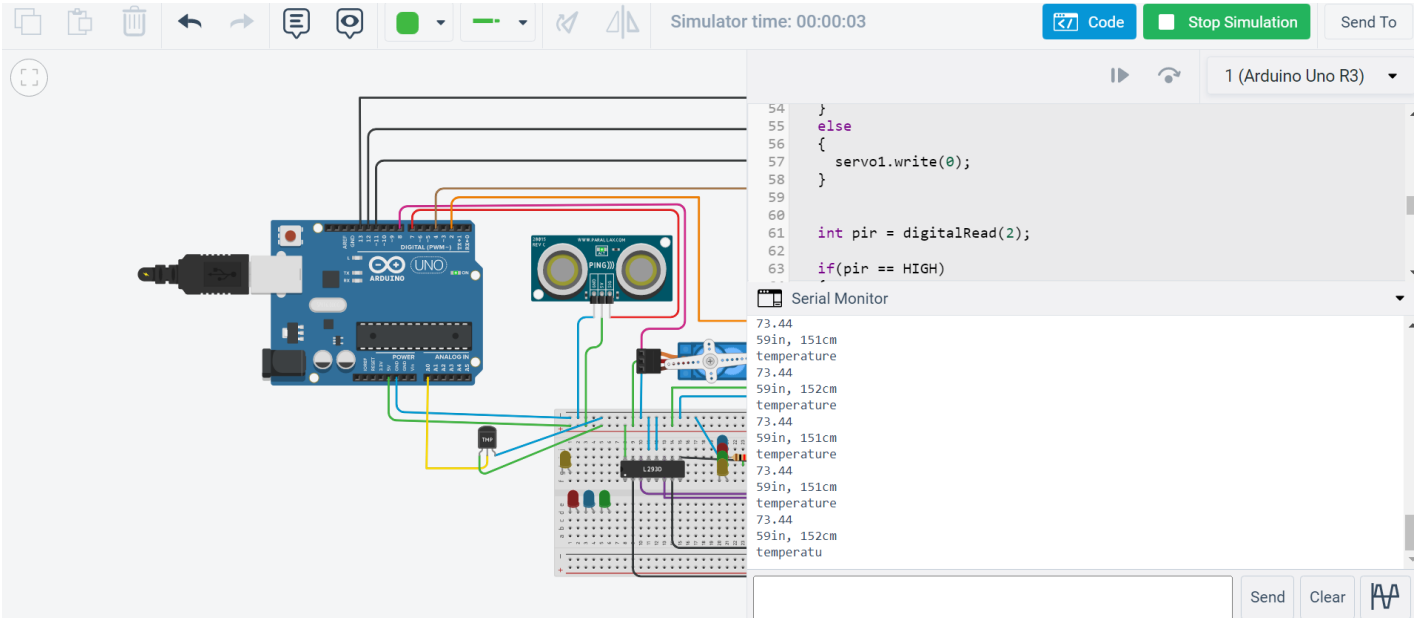
```
#include<Servo.h>
const int pingPin = 7;
int servoPin = 8;
Servo servo1;
void setup()
{
```

```
    Serial.begin(9600);
    servo1.attach(servoPin);
    pinMode(2,INPUT);

    pinMode(4,OUTPUT);

    pinMode(11,OUTPUT);

    pinMode(12,OUTPUT);

    pinMode(13,OUTPUT);

    pinMode(A0,INPUT);

    digitalWrite(2,LOW);

    digitalWrite(11,HIGH);
}

void loop()
{

  long duration, inches, cm;

  pinMode(pingPin, OUTPUT);

  digitalWrite(pingPin, LOW);

  delayMicroseconds(2);

  digitalWrite(pingPin, HIGH);

  delayMicroseconds(5);
```

```
digitalWrite(pingPin, LOW);


pinMode(pingPin, INPUT);

duration = pulseIn(pingPin, HIGH);

inches = microsecondsToInches(duration);

cm = microsecondsToCentimeters(duration);

Serial.print(inches);
Serial.print("in, ");
Serial.print(cm);
Serial.print("cm");
Serial.println();
delay(100);

servo1.write(0);
if(cm < 40)
{
  servo1.write(90);
  delay(2000);
}
else
{
  servo1.write(0);
}


int pir = digitalRead(2);

if(pir == HIGH)
{
  digitalWrite(4,HIGH);
```

```
   delay(1000);
  }
  else if(pir == LOW)
  {
   digitalWrite(4,LOW);
  }


  float value=analogRead(A0);
  float temperature=value*0.48;

  Serial.println("temperature");
  Serial.println(temperature);

  if(temperature > 20)
  {
   digitalWrite(12,HIGH);
   digitalWrite(13,LOW);
  }
  else
  {
   digitalWrite(12,LOW);
   digitalWrite(13,LOW);
  }
}

  long microsecondsToInches(long microseconds)
 {
   return microseconds / 74 / 2;
 }

  long microsecondsToCentimeters(long microseconds)
 {
   return microseconds / 29 / 2;
  }
```

OUTPUT:


Simulator time: 00:00:03
Code
Stop Simulation
Send To
1 (Arduino Uno R3)
54 }
55 else
56 {
57 servo1.write(0);
58 }
59
60
61 int pir = digitalRead(2);
62
63 if(pir == HIGH)
Serial Monitor
73.44
59in, 151cm
temperature
73.44
59in, 152cm
temperature
73.44
59in, 151cm
temperature
73.44
59in, 151cm
temperature
73.44
59in, 152cm
temperatu
Send
Clear