ASSIGNMENT-1

Smart Home automation using IOT

Assignment Date	15 September 2022
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Maximum Marks	2 Marks

Code:

```
#include<Servo.h>

const int pingPin = 7;

int servoPin = 8;

Servo servo1;

void setup() {

// initialize serial communication:

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);

// The same pin is used to read the signal from the PING))): a HIGH pulse

// whose duration is the time (in microseconds) from the sending of the ping

// to the reception of its echo off of an object.

pinMode(pingPin, INPUT);

duration = pulseIn(pingPin, HIGH);

 // convert the time into a distance

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);

}
```

```
// PIR with LED starts
int pir = digitalRead(2);
if(pir == HIGH)
{
digitalWrite(4,HIGH);
delay(1000);
}
else if(pir == LOW)
{
digitalWrite(4,LOW);
}
//temp with fan
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) {
```
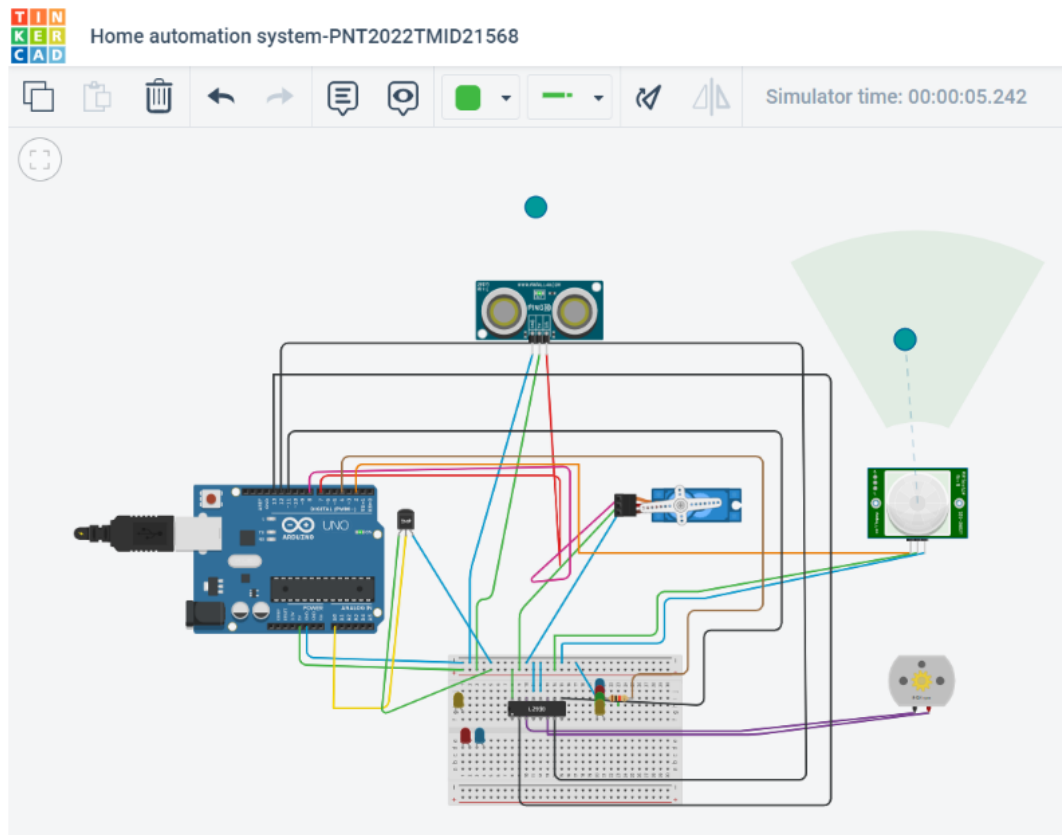
return microseconds / 74 / 2;

}

long microsecondsToCentimeters(long microseconds) {

return microseconds / 29 / 2;

}

Screenshot:

Demo Link:

https://drive.google.com/drive/folders/1bgoweJSo7t9QGMMDvvVlm9jXsCRfFoIZ