

Assignment -1

HOME AUTOMATION

Assignment Date	15 September 2022
Student Name	MS.U.HARIPRIYA
Student Roll Number	510119106002
Maximum Marks	2 Marks

QUESTION:

MAKING HOME AUTOMATION IN TINKERCAD WITH SENSORS(MINIMUM 3)?

SOLUTION : (HOME AUTOMATION CODE)

```
#include<Servo.h>

int hps = 7;

int servoPin = 8;

int buzzerpin=3;

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);
  pinMode(buzzerpin,OUTPUT);
  digitalWrite(2,LOW);
  digitalWrite(11,HIGH);
}

void loop() {
```

```
long duration, inches, cm;
pinMode(hps, OUTPUT);
digitalWrite(hps, LOW);
delayMicroseconds(2);
digitalWrite(hps, HIGH);
delayMicroseconds(5);
digitalWrite(hps, LOW);
pinMode( hps, INPUT);
duration = pulseIn(hps, HIGH);
inches = microsecondsToInches(duration);
cm = microsecondsToCentimeters(duration);
servo1.write(0);
int pir = digitalRead(2);
if(cm < (45))
{
    servo1.write(145);
    Serial.println("Person is detected,Door opens");
    delay(4000);
}
else
{
    servo1.write(0);
    Serial.println("No motion detected , Door closes");
}
pir = digitalRead(2);
if(digitalRead(3)==HIGH)
{tone(buzzerpin,200);
delay(50);
tone(buzzerpin,500);
delay(50);
tone(buzzerpin,900);
delay(50);
```

```
tone(buzzerpin,1000);
delay(50);
tone(buzzerpin,1300);
delay(50);
tone(buzzerpin,1800);
delay(50);
}else
noTone(buzzerpin);
if(pir == HIGH)
{
digitalWrite(4,HIGH);
Serial.println(" Lights ON");
delay(1000);
}
else if(pir == LOW)
{
digitalWrite(4,LOW);
Serial.println("Lights OFF");
}

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

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

if(temperature > 25)
{
digitalWrite(12,HIGH);
digitalWrite(13,LOW);
}
else
```

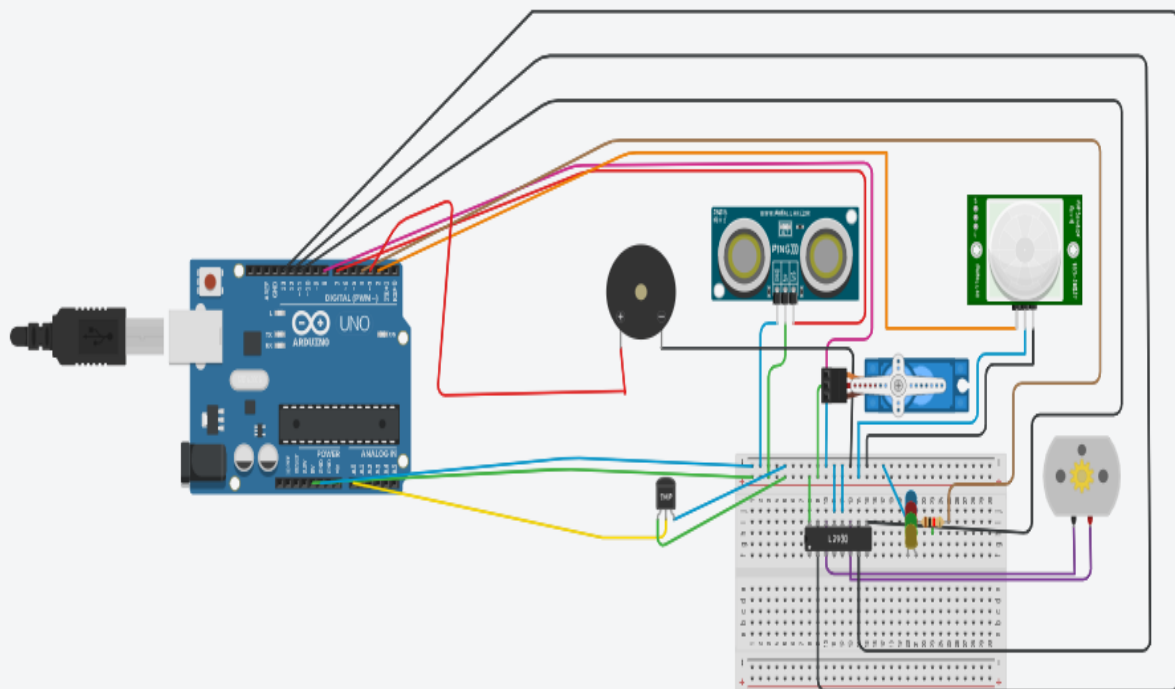
```

{
  digitalWrite(12,LOW);
  digitalWrite(13,LOW);
}
}

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

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

```



TINKERCAD LINK : <https://www.tinkercad.com/things/6JdJX6I4AFc-copy-of-home-automation-system/editel?sharecode=mdWSYdN4QXSXDfRdeZ2uXaLrZ4EzOg4jNVnAwcr8lRs>