HOME AUTOMATION

Assignment Date	15 September 2022
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Maximum Marks	2 Marks

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);
```
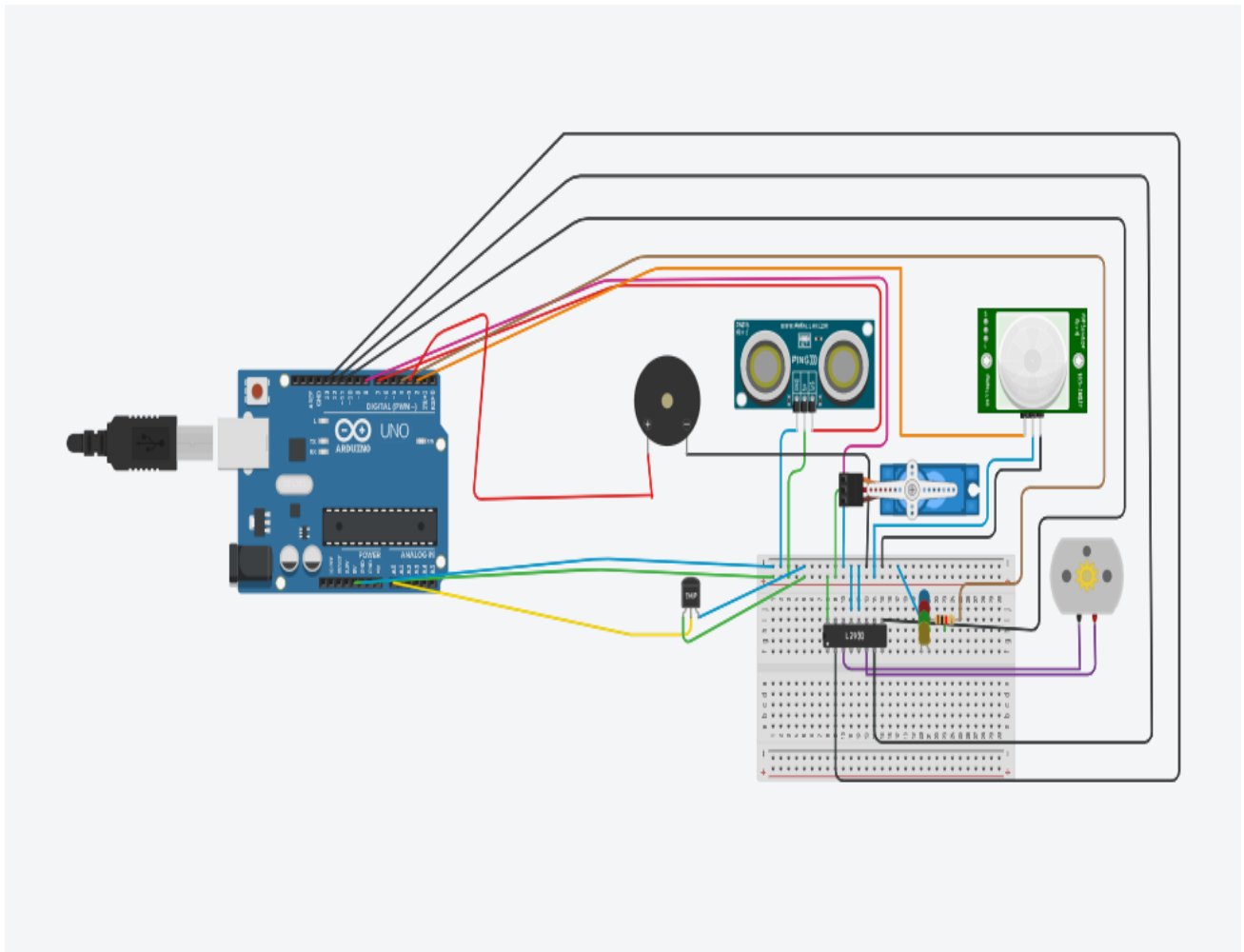
```
    digitalWrite(13,LOW);

  }

}


long microsecondsToInches(long microseconds) {

  return microseconds / 74 / 2;

}


long microsecondsToCentimeters(long microseconds) {

  return microseconds / 29 / 2;

}
```