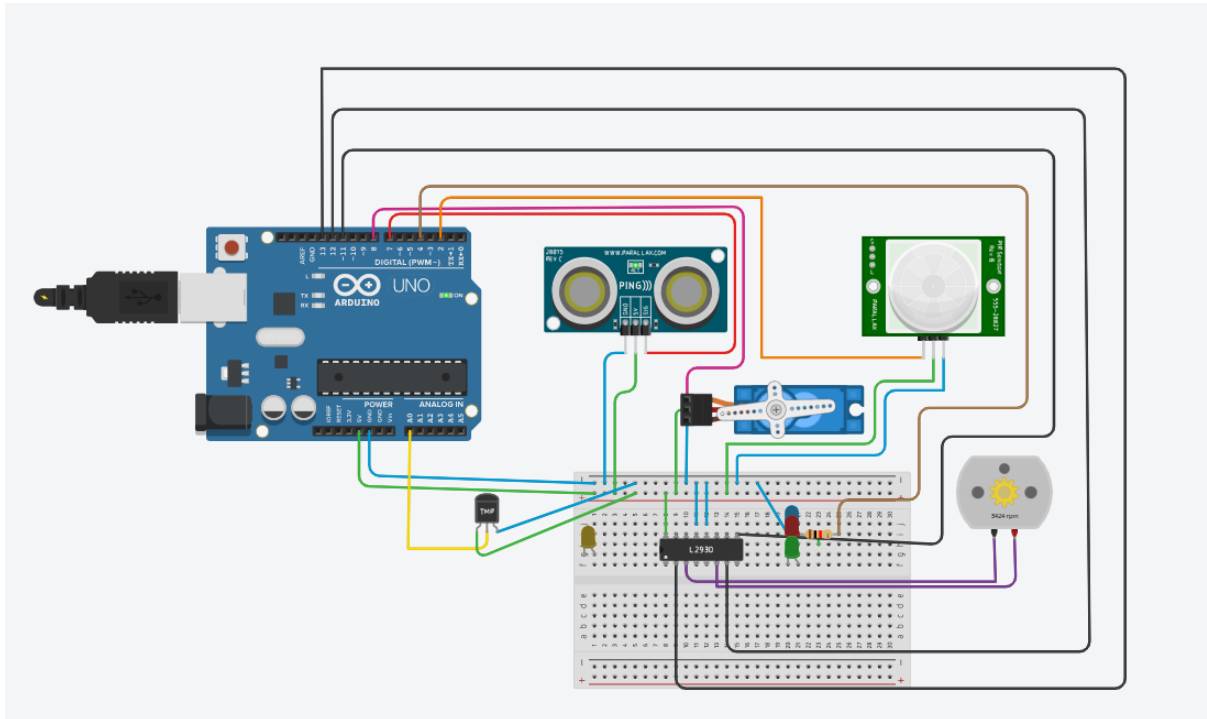


Smart Home in TinkerCad

Circuit:



Program :

```
#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);  
  
    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;  
}
```