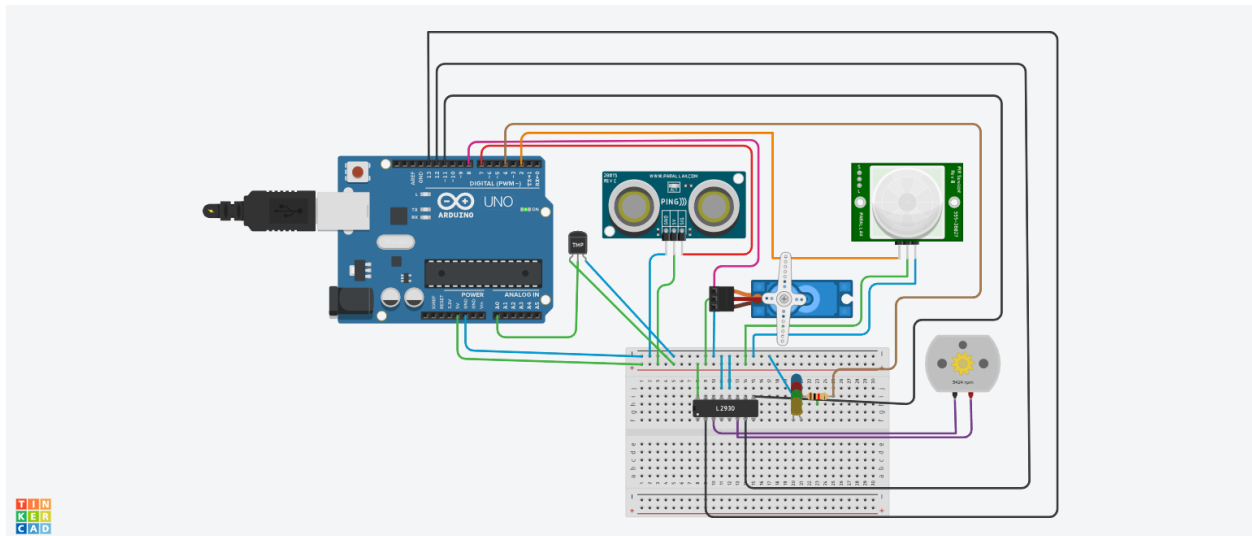# SMART HOME AUTOMATION

Tinkercad Schematic 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);

   // convert the time into a distance

   inches = microsecondsToInches(duration);

   cm = microsecondsToCentimeters(duration);

   servo1.write(0);

   if(cm < 40)

   {

     servo1.write(90);

     delay(2000);

   }

   else
```

```arduino
  {
    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;
}
```

Output :