

Home automation

```
#include <Servo.h>
int distance = 0;
int motion = 0;
Servo servo_3;
long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT); // Clear the trigger
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    // Reads the echo pin, and returns the sound wave travel time in
microseconds
    return pulseIn(echoPin, HIGH);
}
void setup()
{
    servo_3.attach(3, 500, 2500);
    pinMode(13, OUTPUT);
}
void loop()
{
    int p=digitalRead(7);
    Serial.println(p);
    digitalWrite(13,LOW);
    if(p)
    {
        Serial.print("motion detected");
        digitalWrite(13,HIGH);
    }
    servo_3.write(0);
    distance = 0.01723 * readUltrasonicDistance(4, 4);
    if (distance <= 50) {
        servo_3.write(90);
        delay(5000); // Wait for 5000 millisecond(s)
        servo_3.write(0);
        delay(10000);
    }
}
```

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    delay(100);  
}
```