

```

#include<Servo.h>
int us = 6;
int servo = 7;

Servo servol;

void setup() {
  Serial.begin(9600);
  servol.attach(servo);
  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(us, OUTPUT);
  digitalWrite(us, LOW);
  delayMicroseconds(2);
  digitalWrite(us, HIGH);
  delayMicroseconds(5);
  digitalWrite(us, LOW);

  pinMode(us, INPUT);
  duration = pulseIn(us, HIGH);

  inches = microsecondsToInches(duration);
  cm = microsecondsToCentimeters(duration);

  servol.write(0);

  if(cm < 30)
  {
    servol.write(120);
    Serial.println("A Person Arrived, Door is Opening .....");
    delay(2000);
  }
  else
  {
    servol.write(0);
    Serial.println("Door is Closed.....");
  }

  int pir = digitalRead(2);

```

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if(pir == HIGH)
{
    digitalWrite(4,HIGH);
    delay(3000);
}
else if(pir == LOW)
{
    digitalWrite(4,LOW);
}

float value=analogRead(A0);
float temp=((value/1024)*5.0199)-0.5)*100;

Serial.print("temp is ");
Serial.println(temp);
delay(3000);

if(temp > 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;
}

```