```
#include<Servo.h>
        const int pingPin = 7;
        int servoPin = 8;
        Servo servo1;
        void setup() {
         // initialize serial communication:
         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);
        // The same pin is used to read the signal from the PING))): a HIGH pulse
         // whose duration is the time (in microseconds) from the sending of the ping
         // to the reception of its echo off of an object.
         pinMode(pingPin, INPUT);
```

```
 duration = pulseIn(pingPin, HIGH);
// convert the time into a distance
 inches = microsecondsToInches(duration);
 cm = microsecondsToCentimeters(duration);
//Serial.print(inches);
 //Serial.print("in, ");
 //Serial.print(cm);
 //Serial.print("cm");
 //Serial.println();
 //delay(100);
  servo1.write(0);
 if(cm < 40)
 {
   servo1.write(90);
   delay(2000);
 }
 else
 {
   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;
}
```