

## IBM ASSIGNMENT -1

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### Smart Home Automation System Using IoT:

Code:

```
#include<Servo.h>

const int pingPin = 2;
int servoPin = 3;

Servo servo;

void setup() {
  // initialize serial communication:
  Serial.begin(9600);
  servo.attach(servoPin);
  pinMode(4,INPUT);
  pinMode(5,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(13,OUTPUT);
  pinMode(A0,INPUT);
  digitalWrite(12,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);
```

```
//SERVO MOTOR -
```

```
servo.write(0);  
if(cm < 60)  
{  
    servo.write(45);  
    delay(5000);  
}  
servo.write(0);
```

```
// PIR with LED starts -
```

```
int pir = digitalRead(4);  
if(pir == HIGH)  
{  
    digitalWrite(5,LOW);  
    delay(1000);  
}  
else if(pir == LOW)
```

```
{  
    digitalWrite(5,LOW);  
}  
  
//TEMP with FAN -  
float value=analogRead(A0);  
float temperature=value*0.48;  
  
Serial.println("temperature");  
Serial.println(temperature);  
  
if(temperature > 30)  
{  
    digitalWrite(12,LOW);  
    digitalWrite(13,HIGH);  
}  
else  
{  
    digitalWrite(12,LOW);  
    digitalWrite(13,LOW);  
}  
}
```