

# IBM PROJECT ASSIGNMENT – 1

## SMART HOME AUTOMATION

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CODE:

```
#include<Servo.h>
```

```
#include<stdio.h>
```

```
Servo s;
```

```
void setup()
```

```
{
```

```
  pinMode(3,INPUT);
```

```
  s.attach(4);
```

```
  pinMode(5,INPUT);
```

```
  pinMode(6,OUTPUT);
```

```
  pinMode(7,INPUT);
```

```
  pinMode(8,OUTPUT);
```

```
  pinMode(9,OUTPUT);
```

```
  pinMode(10,OUTPUT);
```

```
  pinMode(11,OUTPUT);
```

```
  pinMode(12,OUTPUT);
```

```
  pinMode(13,OUTPUT);
```

```
  Serial.begin(9600);
```

```
}
```

```

void loop()
{
  double a = analogRead(A0);
  double t = (((a/1024)*5)-0.5)*100;
  int b = digitalRead(7);
  if(b == HIGH){
    digitalWrite(13,HIGH);
    Serial.println("Motion Detected.");
  }
  else{ digitalWrite(13,L
    OW);
  }
  Serial.println(b);

  digitalWrite(6,LOW);
  digitalWrite(6,HIGH);
  delayMicroseconds(10);
  digitalWrite(6,LOW);
  float dur = pulseIn(5,HIGH);
  float dis = (dur*0.0343)/2;
  int d = digitalRead(3);
  Serial.print("what: ");
  Serial.println(d);

  if(dis<30 && b == HIGH ||
    d==LOW){ Serial.println("INTRUDE
    R!!!!"); s.write(90);
    delay(100);

```

```

}
else{ s.writ
    e(0);

}

delay(1000);
Serial.print("Temp Value: ");
Serial.println(t);
int c = 0;
if(t<15){
    digitalWrite(9,LOW);
    digitalWrite(10,LOW);
    digitalWrite(11,LOW);
    digitalWrite(12,HIGH);
    tone(8,131);
}
else if(t>15 &&
    t<30){ digitalWrite(9,L
    OW);
    digitalWrite(10,LOW);
    digitalWrite(11,HIGH);
    digitalWrite(12,LOW);
    noTone(8);
}
else if(t>30 &&
    t<45){ digitalWrite(9,L
    OW);
    digitalWrite(10,HIGH);
    digitalWrite(11,LOW);
    digitalWrite(12,LOW);

```

```

    noTone(8);
}
else{ digitalWrite(9,HIGH);
    digitalWrite(10,LOW);
    digitalWrite(11,LOW);
    digitalWrite(12,LOW);
    tone(8,131);
}
delay(100);
}

```

STIMULATION SCREENSHOT:

