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);
}
```

```cpp
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("INTRUDER!!!!
");   s.write(90);   delay(100);

 }
else{
   s.write(0);
```

```
  }

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