**IBM 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("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:

