IBM PROJECT ASSIGNMENT – 1
SMART HOME AUTOMATION

Name: Deepak kumar. D

Register Number:722819106014
Team ID:PNT2022TMID19483

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,LOW);

  }

  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,LOW);
    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: