Assignment – 1

Tinker Cad

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Question-1:

Design a circuit for a smart home using two more sensors.

```
#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);


}
```