

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);
```

```
}
```

