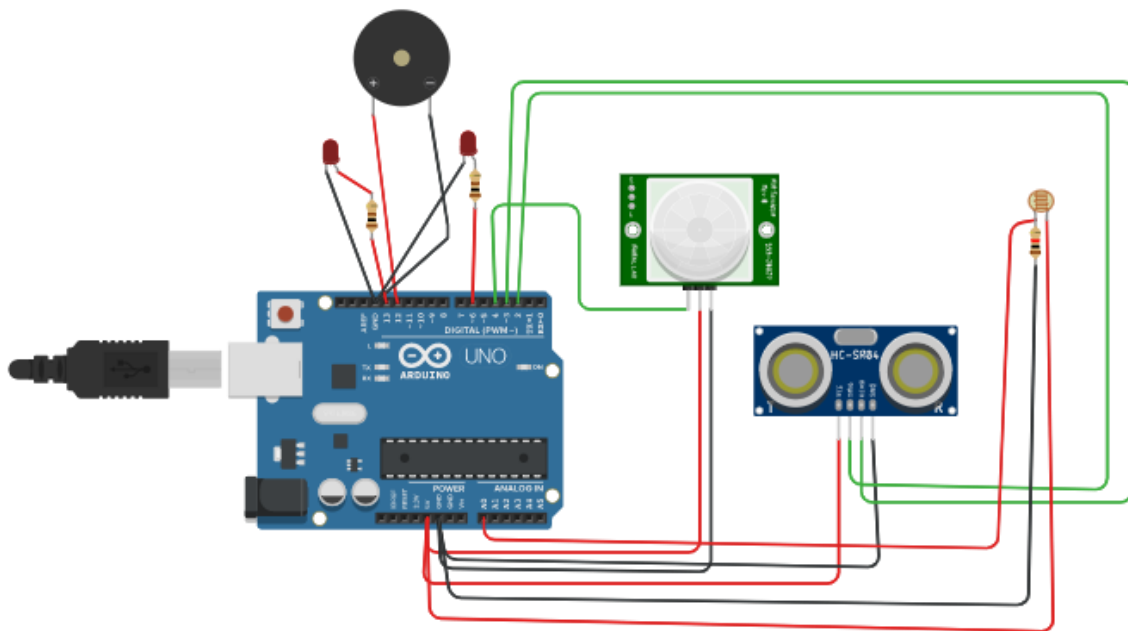# Assignment -1

Smart home

Whenever a thief enters the house, the PIR sensor senses the movement of the thief & the burglar alarm gets activated and generates sound. In addition to this, when a person is present within a distance less than 50m from Ultrasonic sensor, LED light will be blinking. Then, photo sensor is used to adjust LED light intensity according to room light.

Circuit:

Code:

```
// Smart Home

int ldrvalue=0;

void setup()
```

```arduino
{
 pinMode(4,INPUT);
 pinMode(12,OUTPUT);
 pinMode(13,OUTPUT);
 pinMode(6,OUTPUT);
 pinMode(2,OUTPUT);
 pinMode(3,INPUT);
 pinMode(A0,INPUT);
 Serial.begin(9600);
}

void loop()
{
 //burglar alarm
 int p=digitalRead(4);
 if(p)
 {
  tone(12,30);
  delay(1000);

 }
 noTone(12);
 delay(1000);
```

```
//ultrasonic sensor
digitalWrite(2,LOW);
digitalWrite(2,HIGH);
delayMicroseconds(10);
digitalWrite(2,LOW);
float dur=pulseIn(3,HIGH);
float dis=(dur*0.034)/2;
Serial.print("Ultrasonic dis=");
Serial.println(dis);
if(dis<50)
{
  digitalWrite(13,HIGH);
  delay(1000);
  digitalWrite(13,LOW);
  delay(1000);

}
//LDR
ldrvalue=analogRead(A0);
Serial.print("LDR dis=");
Serial.println(ldrvalue);
analogWrite(6,map(ldrvalue,0,1023,0,255));
```

```
  delay(1000);

}
```

Tinkercad link: https://www.tinkercad.com/things/4MwgVvxEZMO