ASSIGNMENT-1

HOME AUTOMATION

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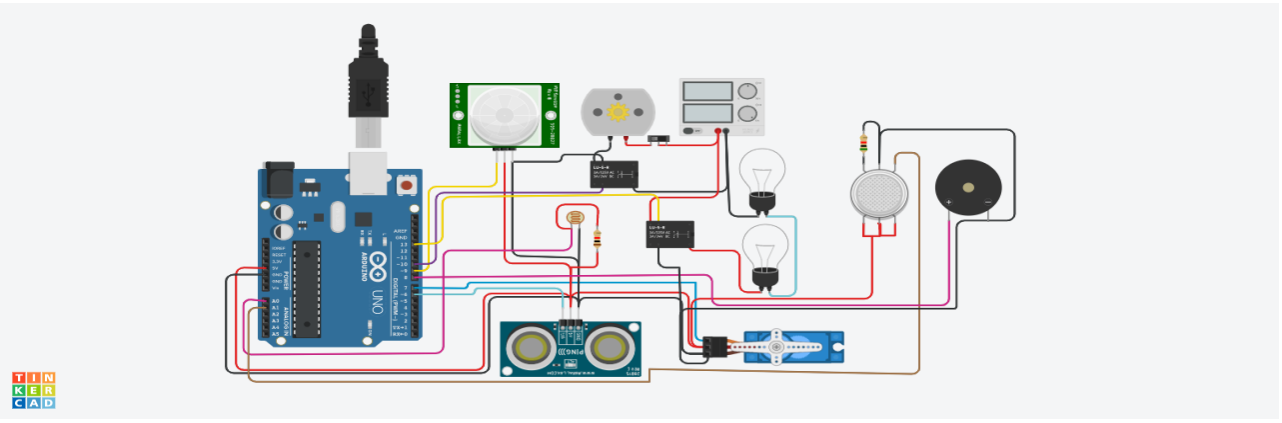
CIRCUIT DIAGRAM



TINKER CAD LINK:

https://www.tinkercad.com/things/2cxiHS0I6nc-copy-of-home-automation-version2/editel?sharecode=5ubfLxuUcyC3IKkKZ_BtEXUGKuZNx0UDSLKkuEojaGY

SOURCE CODE:

```
#include <Servo.h>


int output1Value = 0;

int sen1Value = 0;

int sen2Value = 0;

int const gas_sensor = A1;

int const LDR = A0;

int limit = 400;


long readUltrasonicDistance(int triggerPin, int echoPin)

{

  pinMode(triggerPin, OUTPUT);

  digitalWrite(triggerPin, LOW);

  delayMicroseconds(2);

  digitalWrite(triggerPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(triggerPin, LOW);

  pinMode(echoPin, INPUT);

  return pulseIn(echoPin, HIGH);

}


Servo servo_7;


void setup()

{

   Serial.begin(9600);

  pinMode(A0, INPUT);
```

```
 pinMode(A1,INPUT);
 pinMode(13, OUTPUT);
 servo_7.attach(7, 500, 2500); //servo motor

 pinMode(8,OUTPUT);
 pinMode(9, INPUT);
 pinMode(10, OUTPUT);
 pinMode(4, OUTPUT);
 pinMode(3, OUTPUT);

}

void loop()
{


   int val1 = analogRead(LDR);
 if (val1 > 500)
          {
          digitalWrite(13, LOW);
   Serial.print("Bulb ON = ");
   Serial.print(val1);
          }
 else
          {
          digitalWrite(13, HIGH);
    Serial.print("Bulb OFF = ");
   Serial.print(val1);

 sen2Value = digitalRead(9);
 if (sen2Value == 0)
```

```
        {
        digitalWrite(10, LOW);
        digitalWrite(4, HIGH);
        digitalWrite(3, LOW);
  Serial.print("    || NO Motion Detected    " );
        }

 if (sen2Value == 1)
        {
        digitalWrite(10, HIGH);
  delay(5000);
        digitalWrite(4, LOW);
        digitalWrite(3, HIGH);
   Serial.print("    || Motion Detected!      " );
        }
int val = analogRead(gas_sensor);     //read sensor value
 Serial.print("|| Gas Sensor Value = ");
 Serial.print(val);
//val = map(val, 300, 750, 0, 100);
 if (val > limit)
        {
        tone(8, 650);
        }
        delay(300);
        noTone(8);
 sen1Value = 0.01723 * readUltrasonicDistance(6, 6);

 if (sen1Value < 100)
        {
        servo_7.write(90);
  Serial.print("    || Door Open!  ; Distance = ");
```

```
   Serial.print(sen1Value);
  Serial.print("\n");


            }
  else
            {
            servo_7.write(0);
   Serial.print("    || Door Closed! ; Distance =  ");
   Serial.print(sen1Value);
   Serial.print("\n");
  }
  delay(10);
}
```