ASSIGNMENT -1

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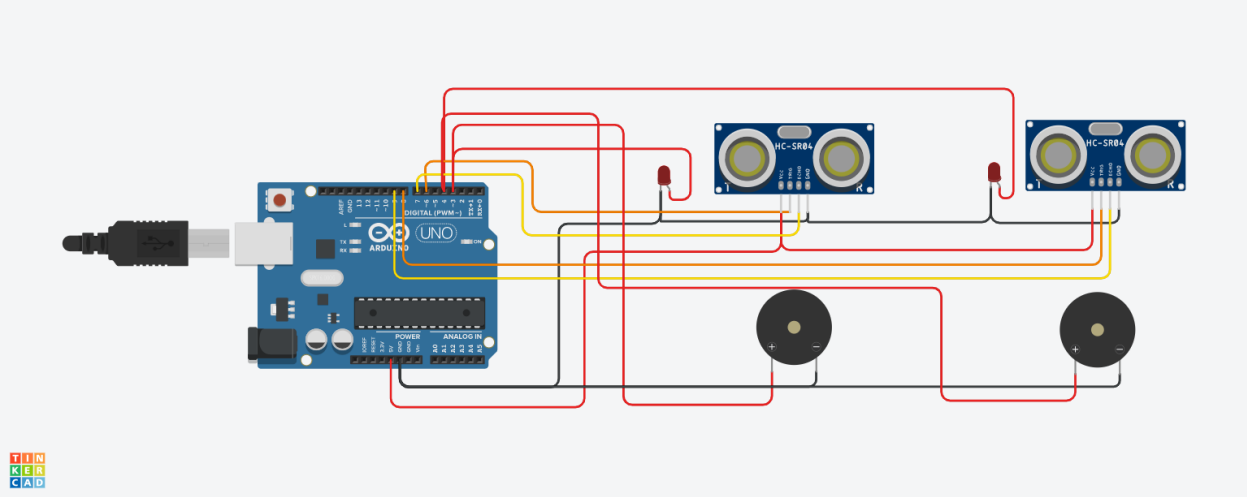
SMART HOME

Created a circuit with 2-Piezo alarm, 2-Ultrasonic sensor, and LED light.

CIRCUIT DIAGRAM :



Ultrasonic sensors are used as motion sensors in IoT home automation systems. Motion sensors can trigger alarms if motion is detected when the house is supposed to be empty. The right sensor for your project depends on the range you are trying to detect

CODE :

```
int ledPin1 = 3;
int ledPin2 = 4;

int trigPin1 = 6;
int echoPin1 = 7;

int trigPin2 = 8;
int echoPin2 = 9;



void setup() {
  Serial.begin (9600);
  pinMode(trigPin1, OUTPUT);
  pinMode(echoPin1, INPUT);

  pinMode(trigPin2, OUTPUT);
  pinMode(echoPin2, INPUT);


  pinMode(ledPin1, OUTPUT);
  pinMode(ledPin2, OUTPUT);
}

void firstsensor(){ // This function is for first sensor.
  int duration1, distance1;
  digitalWrite (trigPin1, HIGH);
  delayMicroseconds (10);
  digitalWrite (trigPin1, LOW);
  duration1 = pulseIn (echoPin1, HIGH);
  distance1 = (duration1/2) / 29.1;

     Serial.print("1st Sensor: ");
     Serial.print(distance1);
```

```
    Serial.print("cm    ");

  if (distance1 < 60) {  // Change the number for long or short distances.
    digitalWrite (ledPin1, HIGH);
  } else {
    digitalWrite (ledPin1, LOW);
  }
}
void secondsensor(){ // This function is for second sensor.
    int duration2, distance2;
    digitalWrite (trigPin2, HIGH);
    delayMicroseconds (10);
    digitalWrite (trigPin2, LOW);
    duration2 = pulseIn (echoPin2, HIGH);
    distance2 = (duration2/2) / 29.1;

     Serial.print("2nd Sensor: ");
     Serial.print(distance2);
     Serial.print("cm    ");

    if (distance2 < 20) {  // Change the number for long or short distances.
     digitalWrite (ledPin2, HIGH);
    }
 else {
     digitalWrite (ledPin2, LOW);
    }
}

void loop() {
Serial.println("\n");
firstsensor();
secondsensor();
delay(100);
}
```