ASSIGNMENT 1

ASSIGNMENT DATE	24-SEP-2022
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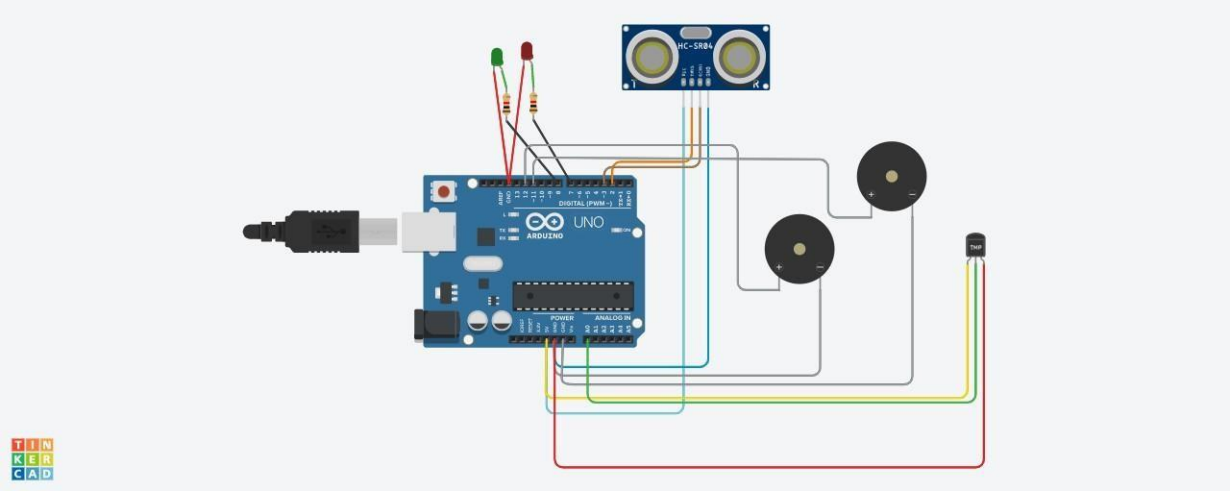
MAXIMUM MARK	2MARK

QUESTION:

Build a smart home in tinker cad use at least 2 sensors, LED, buzzer in a circuit. simulate in a single code.

SMART Home Circuit Connection:



COMPONENTS

Quantity	Component
1	Arduino Uno R3
1	Red LED
1	Green LED
1	Temperature Sensor [TMP36]
1	Ultrasonic Distance Sensor
2	1 kΩ Resistor
2	Piezo

CODE

```
int t=2;
int e=3;

void setup()
{
  Serial.begin(9600); pinMode(t,OUTPUT);
  pinMode(e,INPUT);
  pinMode(12,OUTPUT);
}
```

```
void loop()
{
 //ultrasonic sensor
 digitalWrite(t,LOW);
 digitalWrite(t,HIGH);
 delayMicroseconds(10);
 digitalWrite(t,LOW); float
 dur=pulseIn(e,HIGH); float
 dis=(dur*0.0343)/2;
 Serial.print("Distance is: ");
 Serial.println(dis);

  //LED ON if(dis>=100)
 {
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
 }

 //Buzzer For ultrasonic Sensor
 if(dis>=100)
 {
 for(int i=0; i<=30000; i=i+10)
 { tone(12,i);
 delay(1000);
 noTone(12);
 delay(1000);
 }
 }



  //Temperate Sensor double a=
 analogRead(A0);          double
 t=(((a/1024)*5)-0.5)*100;
 Serial.print("Temp Value: ");
 Serial.println(t);
 delay(1000);


 //LED ON if(t>=100)
 {
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
 }

 //Buzzer for Temperature Sensor
 if(t>=100)
 {
 for(int i=0; i<=30000; i=i+10)
 {
 tone(12,i); delay(1000);
 noTone(12);
 delay(1000);
 } }
```

```
 //LED OFF
 if(t<100)
 {
       digitalWrite(8,LOW);
       digitalWrite(7,LOW);
 }
}
```