ASSIGNMENT 1
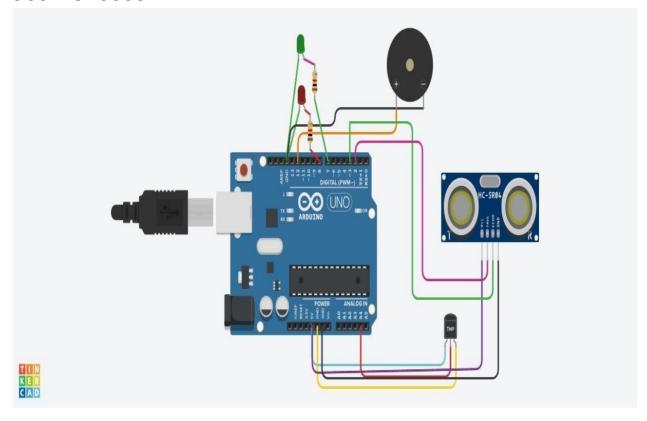
SMART HOME

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Components

Name	Quantity	Component

U1	1	Arduino Uno R3
D1	1	Red LED
D2	1	Green LED
R1 R2	2	100kΩ
PIEZO1	1	Piezo
DIST1	1	Ultrasonic Distance Sensor
U2	1	Temperature Sensor [TMP36]

Code for Smart home using Tinkercad

```cpp
// C++ code
//
int a=2;int b=3; void
setup()
{
```

```arduino
  Serial.begin(9600);
  pinMode(a,OUTPUT);
  pinMode(b,INPUT);
  pinMode(12,OUTPUT);
}
void loop()
{
  //ultrasonic sensor
digitalWrite(a,LOW);
digitalWrite(a,HIGH);
delayMicroseconds(10);
digitalWrite(a,LOW);    float
dur=pulseIn(b,HIGH);   float
dis=(dur*0.0343)/2;
  Serial.print("Distance is: ");
  Serial.println(dis);
//LED ON    if(dis>=100)
  {
    digitalWrite(8,HIGH);
  }
```

```
   else
   {
     digitalWrite(8,LOW);
   }
   //Buzzer For ultrasonic Sensor
if(dis>=100)
   {
     digitalWrite(12,HIGH);
delay(500);
   }
   else
   {
     digitalWrite(12,LOW);
delay(500);
   }
   //Temperate Sensor   double a=
analogRead(A4);   double
t=(((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
```

```
Serial.println(a); //LED ON
if(t>=100)
 {
   digitalWrite(7,HIGH);
 }
 else
 {
   digitalWrite(7,LOW);
 }
 //Buzzer for Temperature Sensor
if(t>=100)
 {
   digitalWrite(12,HIGH);
delay(500);
 }
 else{
digitalWrite(12,LOW);
delay(500);
 }
}
```