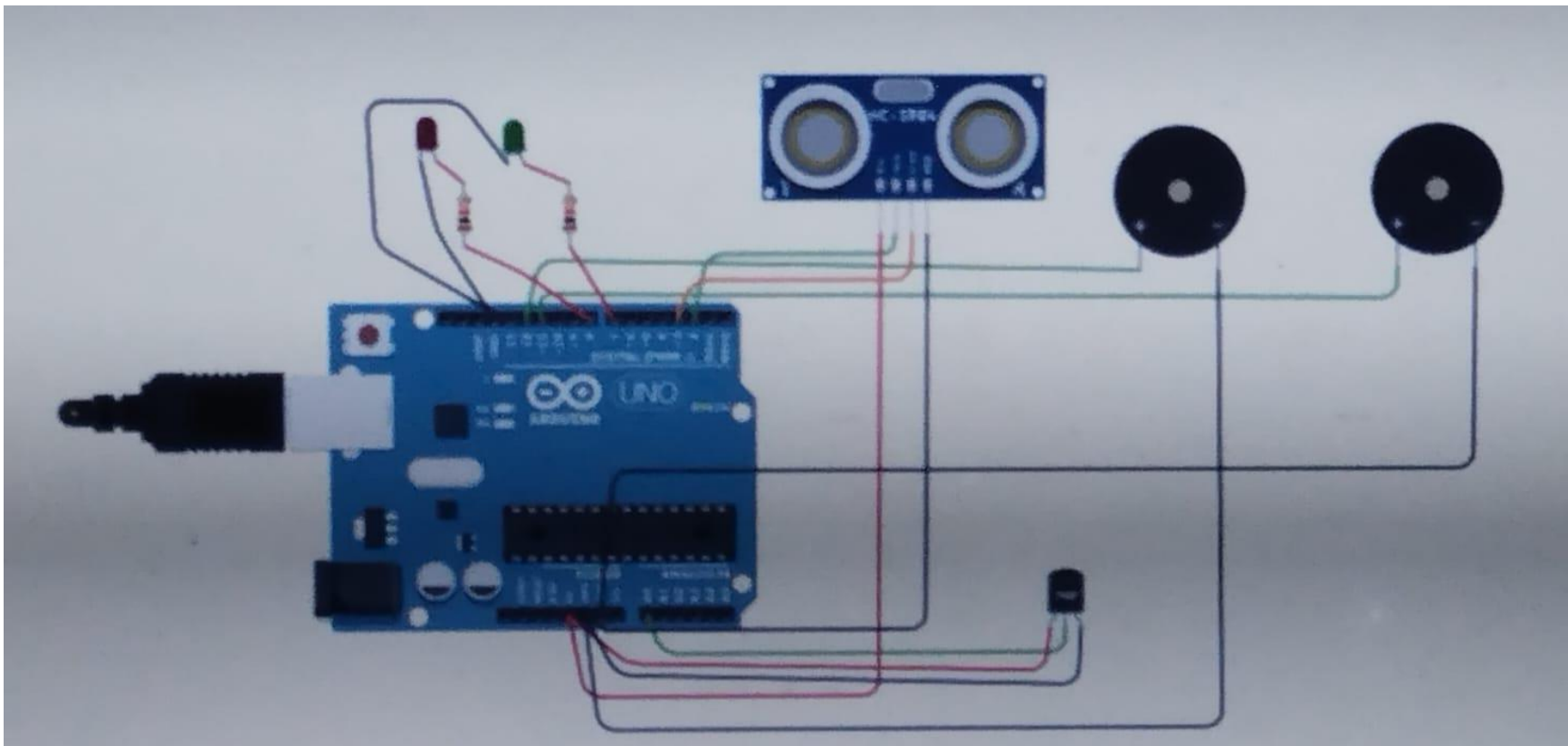


# Assignment 1 – Smart Home

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**Circuit Diagram:**



## Source 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>=20)//(in terms of centimeter)  
{  
    digitalWrite(8,HIGH);  
    digitalWrite(7,HIGH);
```

```
}
```

```
//Buzzer For ultrasonic Sensor
```

```
if(dis>=20)
```

```
{
```

```
for(int i=0; i<=5; i=i+1)
```

```
{
```

```
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>=20)//(in terms of celsius)
```

```
{
```

```
    digitalWrite(8,HIGH);
```

```
    digitalWrite(7,HIGH);
```

```
}
```

```
//Buzzer for Temperature Sensor
```

```
if(t>=20)
```

```
{
```

```
for(int i=0; i<=5; i=i+1)
```

```
{
```

```
tone(12,i);
```

```
delay(1000);
```

```
noTone(12);
```

```
delay(1000);
```

```
}
```

```
}
```

```
//LED OFF  
  
if(t<20)  
{  
    digitalWrite(8,LOW);  
    digitalWrite(7,LOW);  
}  
}
```

## **Tinkercad Link:**

<https://www.tinkercad.com/things/cL1TGyuJGPa-sree/editel>

# OUTPUT:

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.86

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88



