

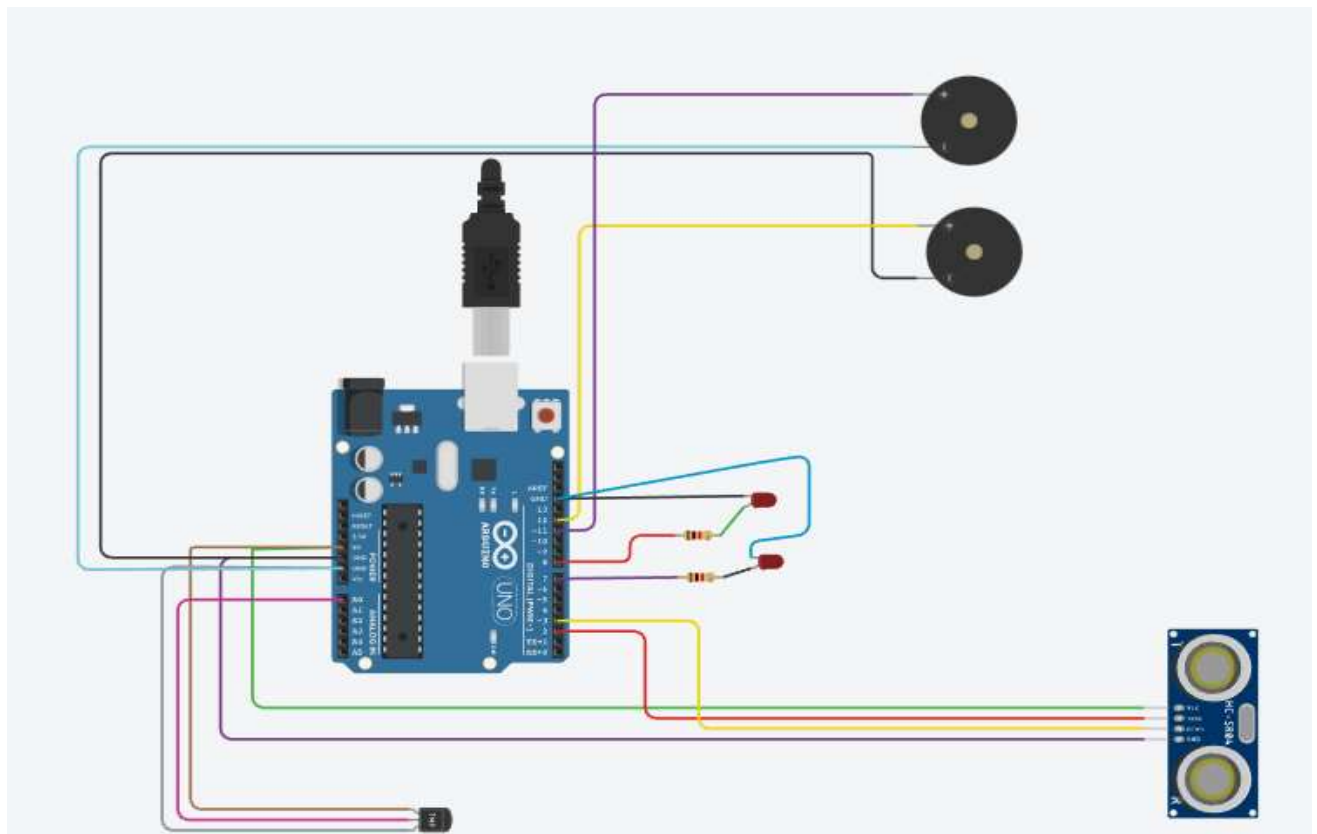
IBM - Nallaiya Thiran Project

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>=60)//(in terms of centimeter)
{
digitalWrite(8,HIGH);
digitalWrite(7,HIGH);
}

//Buzzer For ultrasonic Sensor
if(dis>=60)
{
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/0ua6eyUw6mj-smart-home-/editel>

OUTPUT :

