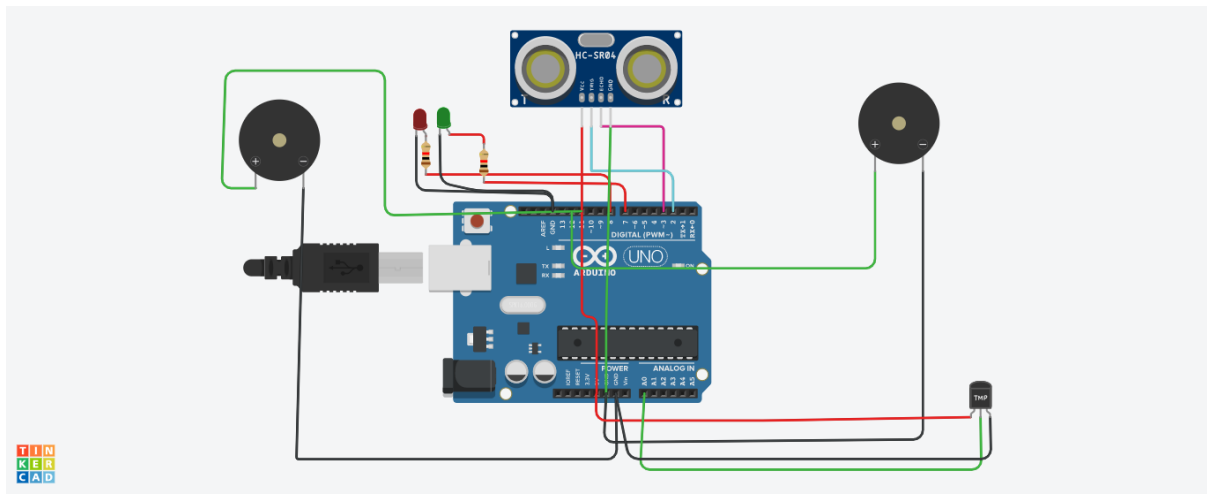


IBM - Nallaiya Thiran Project

Assignment 1 - Smart Home

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2019503559

Circuit Diagram:



Source Code :

```
// C++ 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/fZqAiSqgoUr-neat-waasa/editel?sharecode=Orf9dNG-ZKJmzrGCsmKvaGNbuouDQ8e4cR0MtBEBiYk>

Output (Serial Monitor):

