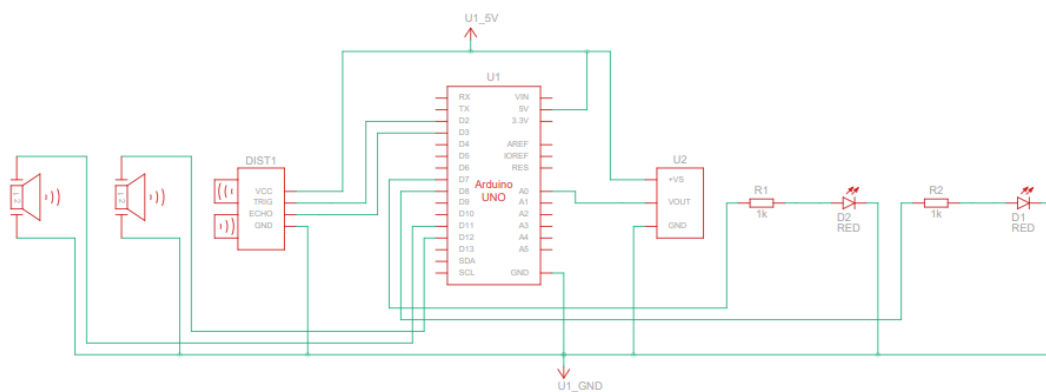
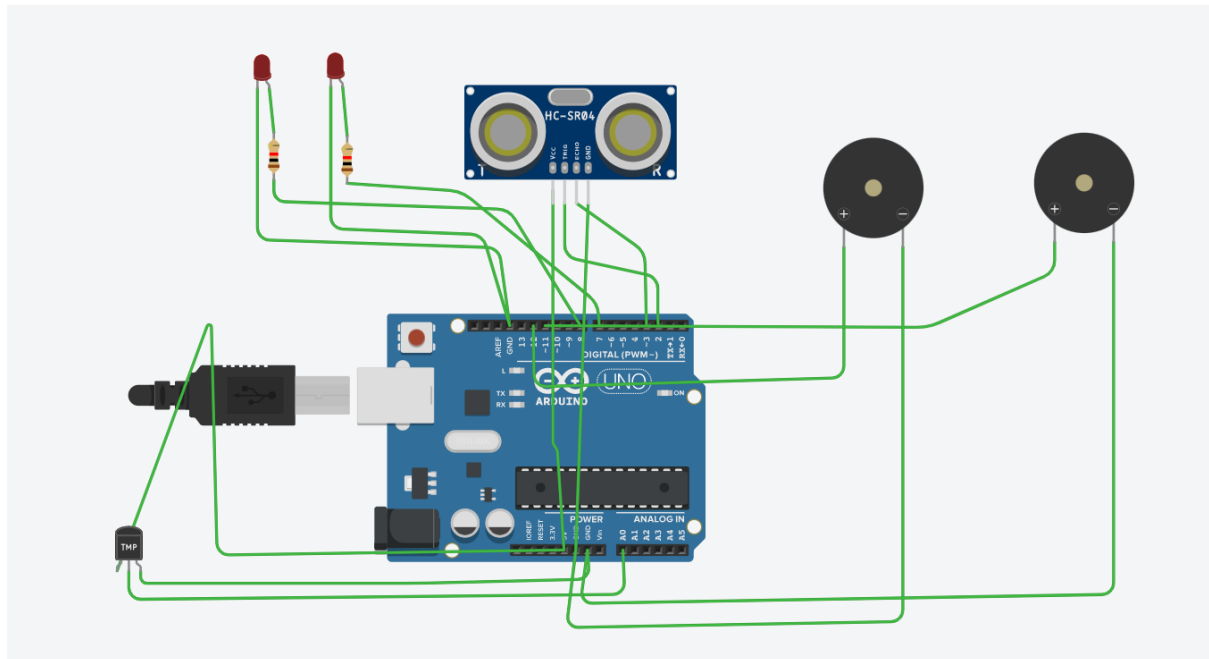


IBM – Nallaiya Thiran Project

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);

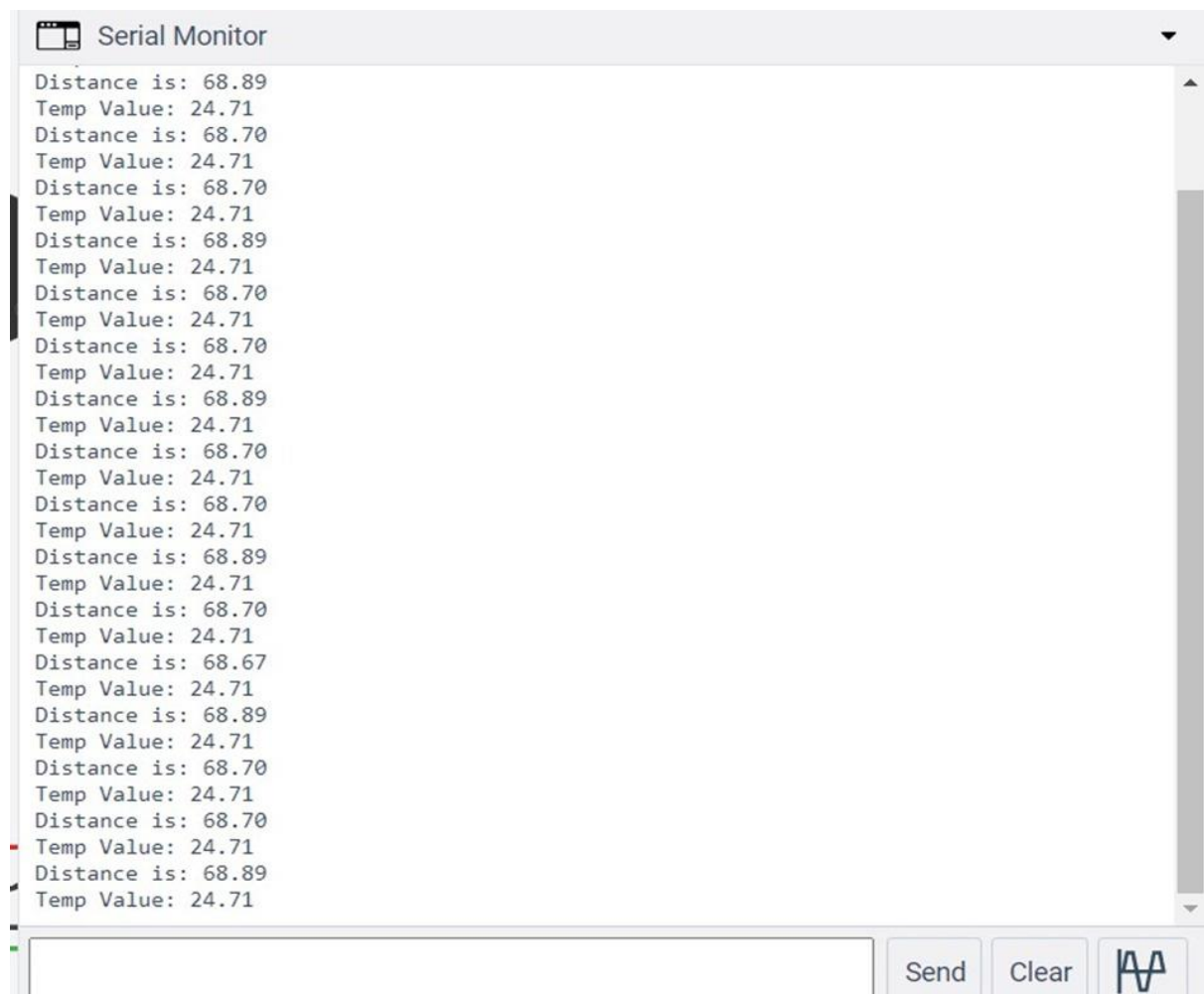
  //LED ON
  if(dis>=100)//(in terms of centimeter)
  {
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
  }

  //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)//(in terms of celsius)  
{  
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);  
}  
}
```

Output(Serial Monitor):



Tinker cad Link:

**[https://www.tinkercad.com/things/1SkNDyEBEK4-ibm-
iot/editel](https://www.tinkercad.com/things/1SkNDyEBEK4-ibm-iot/editel)**