

# IBM-Nalaiyathiran Project

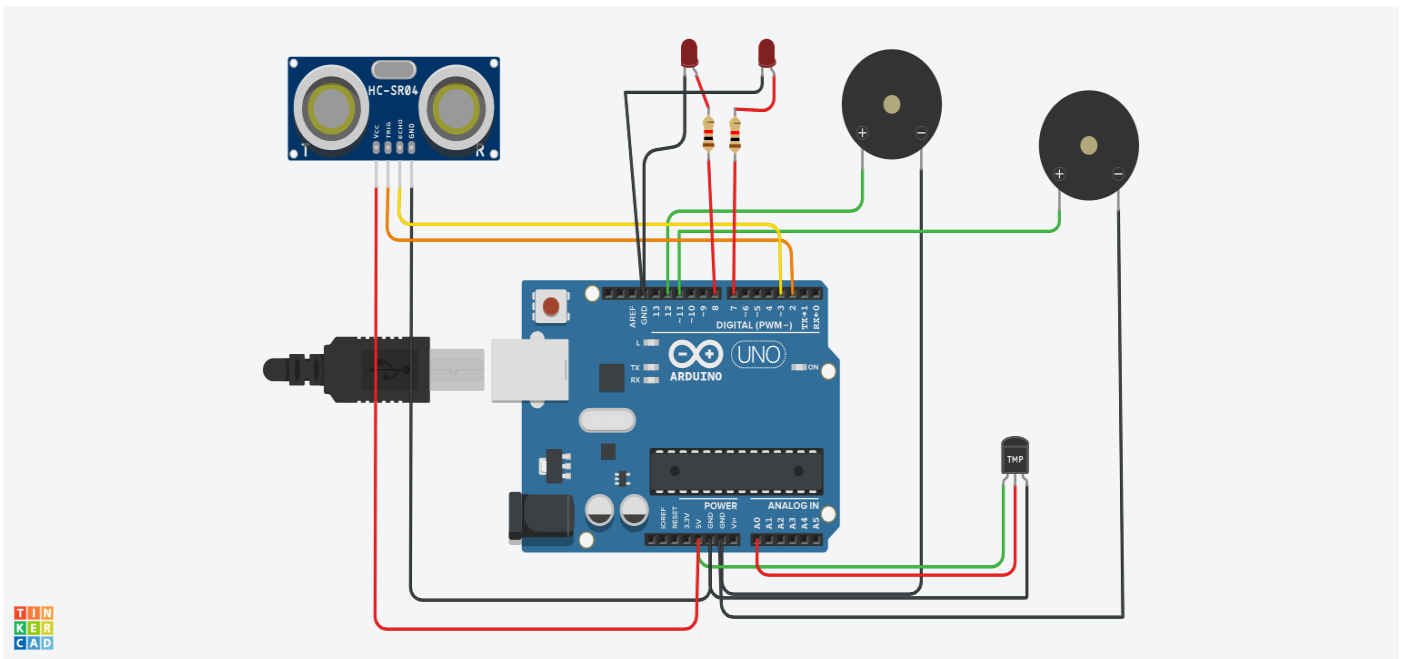
## Assignment 1- Smart Home

Farshana .F

Reg.No:960219106063

Batch No: B4-4M6E

### 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>=100)
  {
    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)  
{  
    digitalWrite(8,HIGH);  
    digitalWrite(7,HIGH);  
}
```

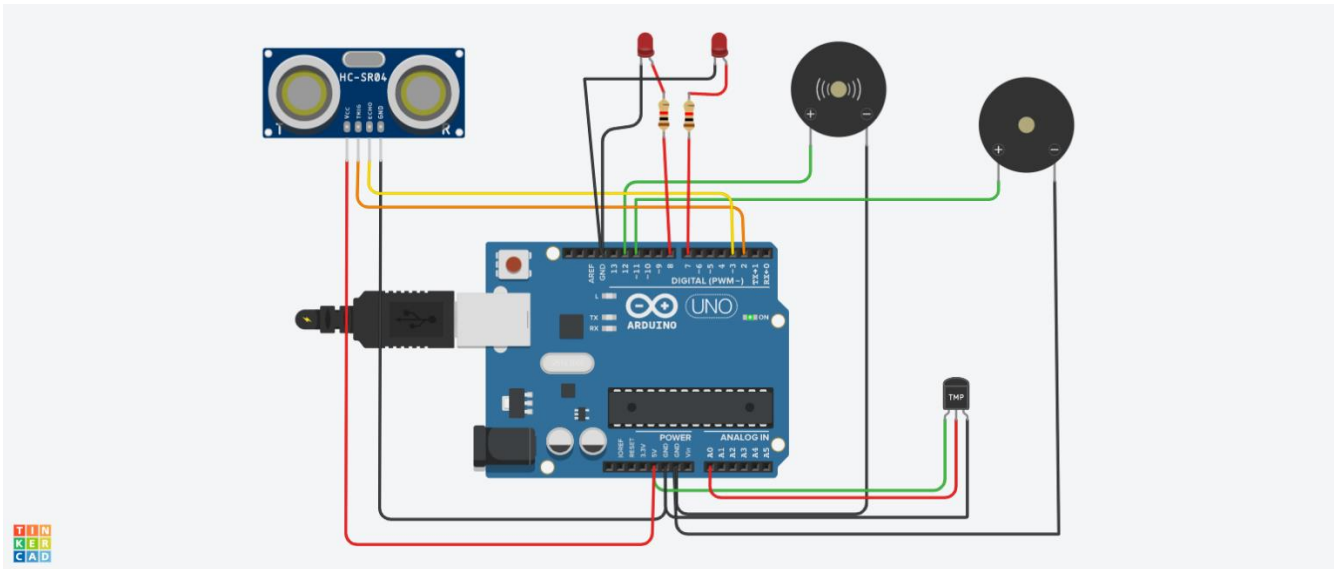
```
//Buzzer for Temperature Sensor  
if(t>=100)  
{  
    for(int i=0; i<=30000; i=i+10)  
    {  
        tone(12,i);  
        delay(1000);  
        noTone(12);  
        delay(1000);  
    }  
}
```

```
//LED OFF  
if(t<100)  
{  
    digitalWrite(8,LOW);  
    digitalWrite(7,LOW);  
}
```

## OUTPUT:

### Serial Monitor

```
Distance is: 112.88
Distance is: 112.88
Distance is: 112.88
Distance is: 112.88
Distance is: 112.88
Distance is: 112.88
```



## TINKERCAD LINK:

<https://www.tinkercad.com/things/hmQYH2ksic7>