IBM-Nallaiya Thiran Project

Assignment 1-Smart Home

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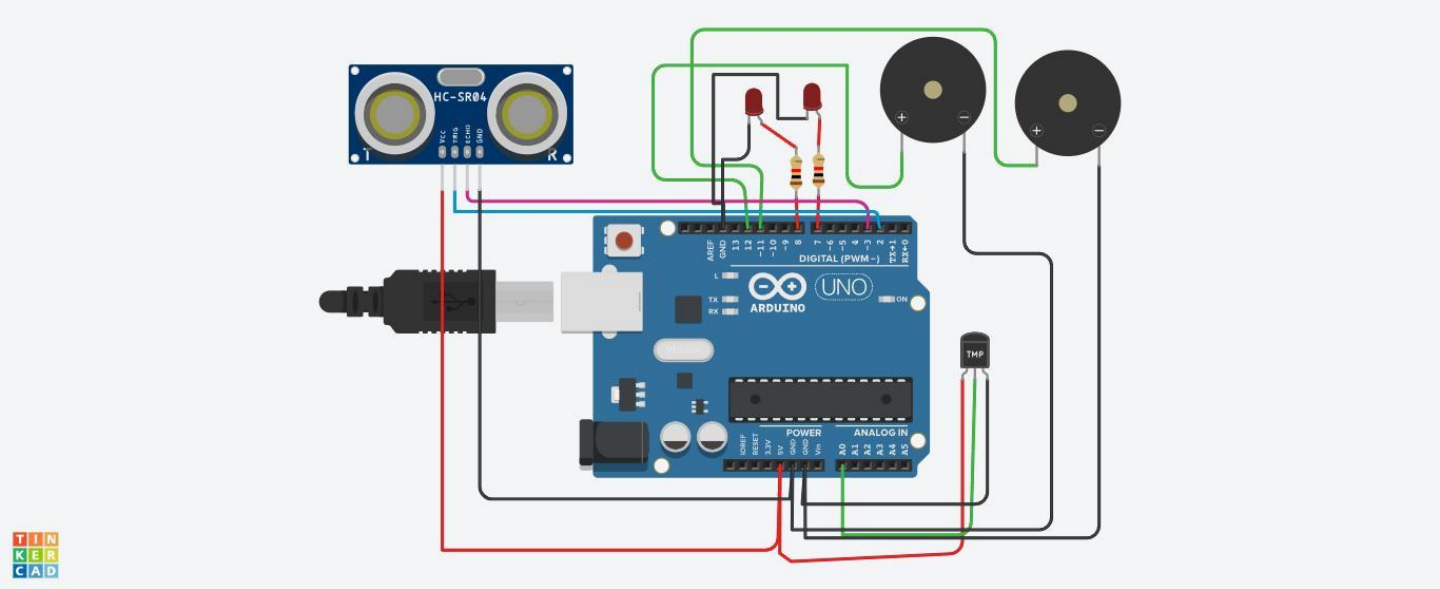
B4-4M6E

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)
  {
    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);
}
```

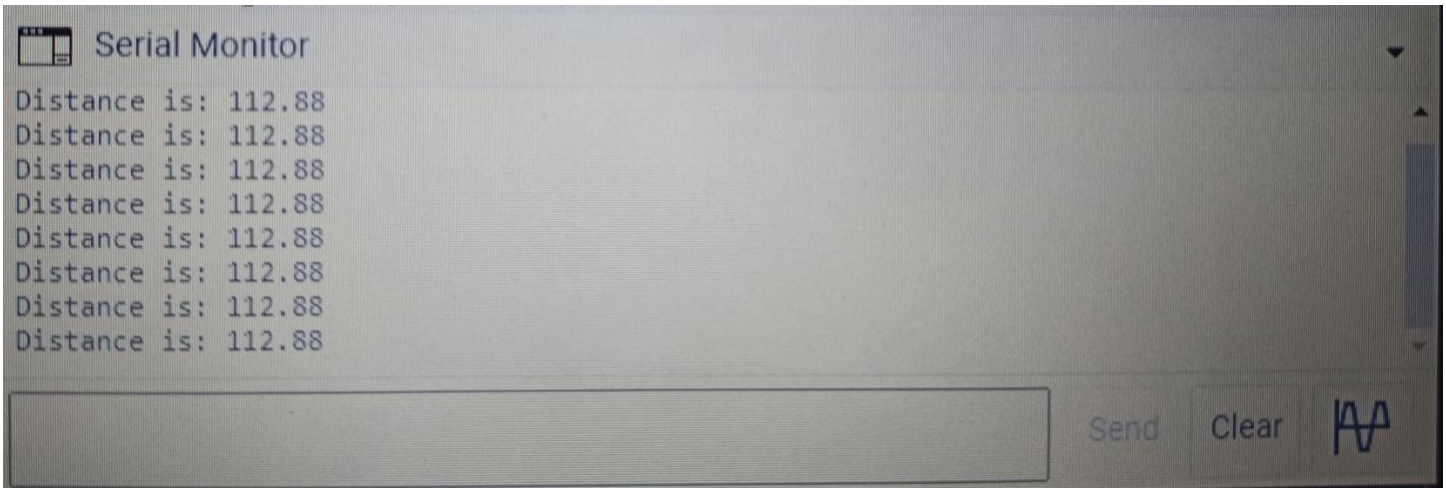
```
//Buzzer for Temperature Sensor
if(t>=100)
{
for(int i=0; i<=30000; i=i+10)
```

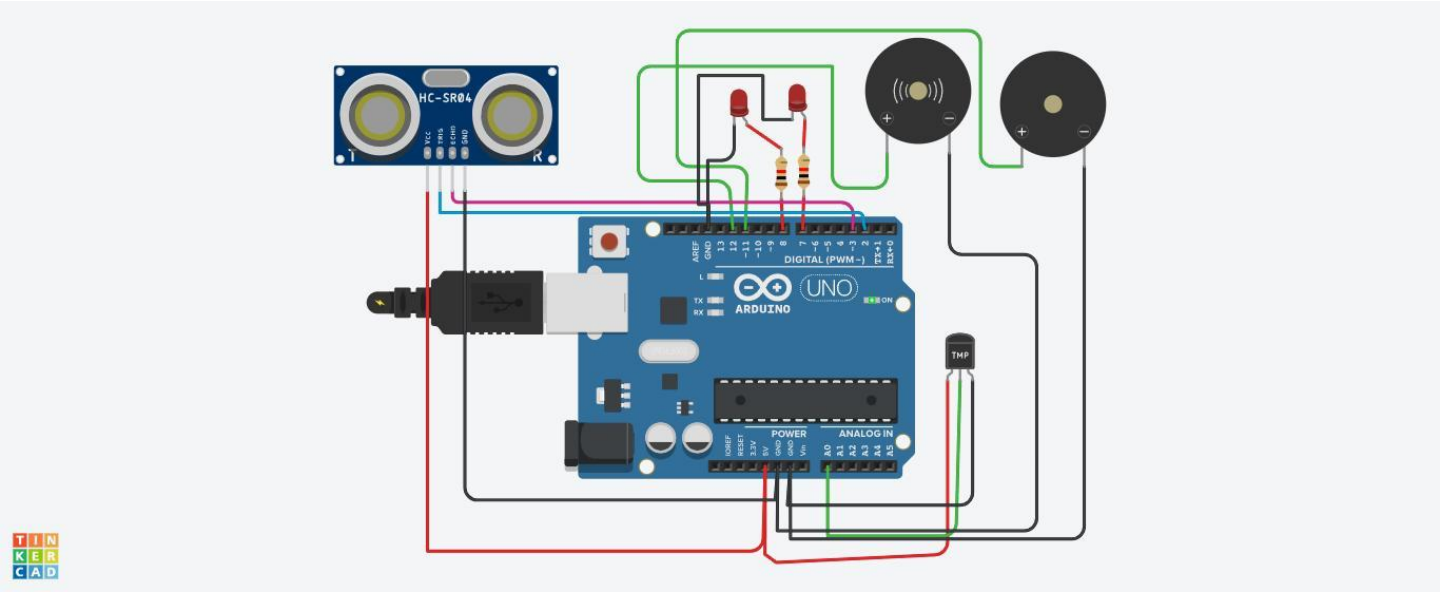
```
  {
  tone(12,i);
  delay(1000);
  noTone(12);
  delay(1000);
  }
  }

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

Tinkercad link:

https://www.tinkercad.com/things/gKNm8vH84vt-funky-jaagub-vihelmo

Output:




HC-SR04
Vcc
Trig
Echo
GND
DIGITAL (PWM~)
ARDUINO
UNO
POWER
ANALOG IN
TMP