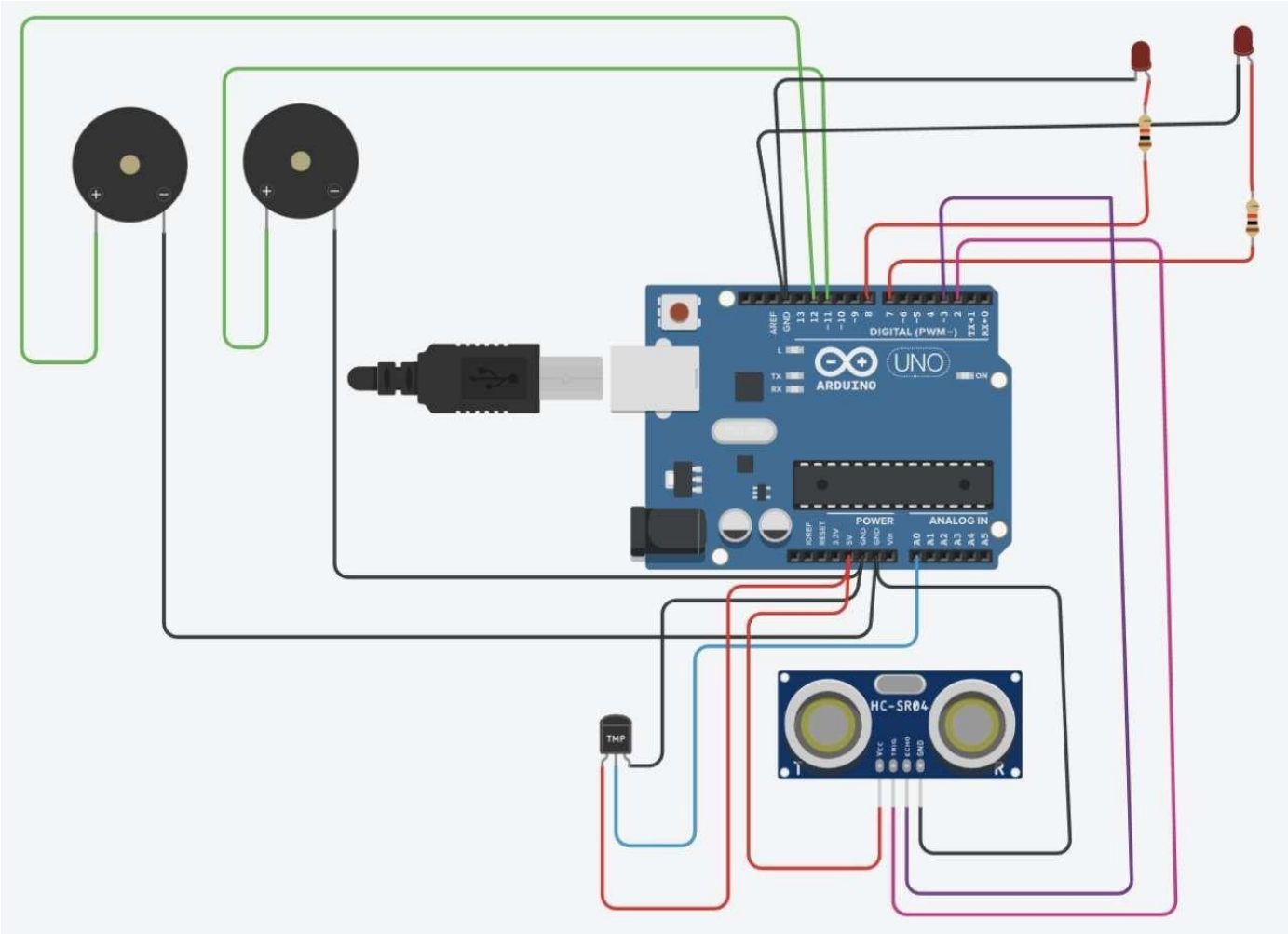
ASSIGNMENT 1

Circuit Diagram:



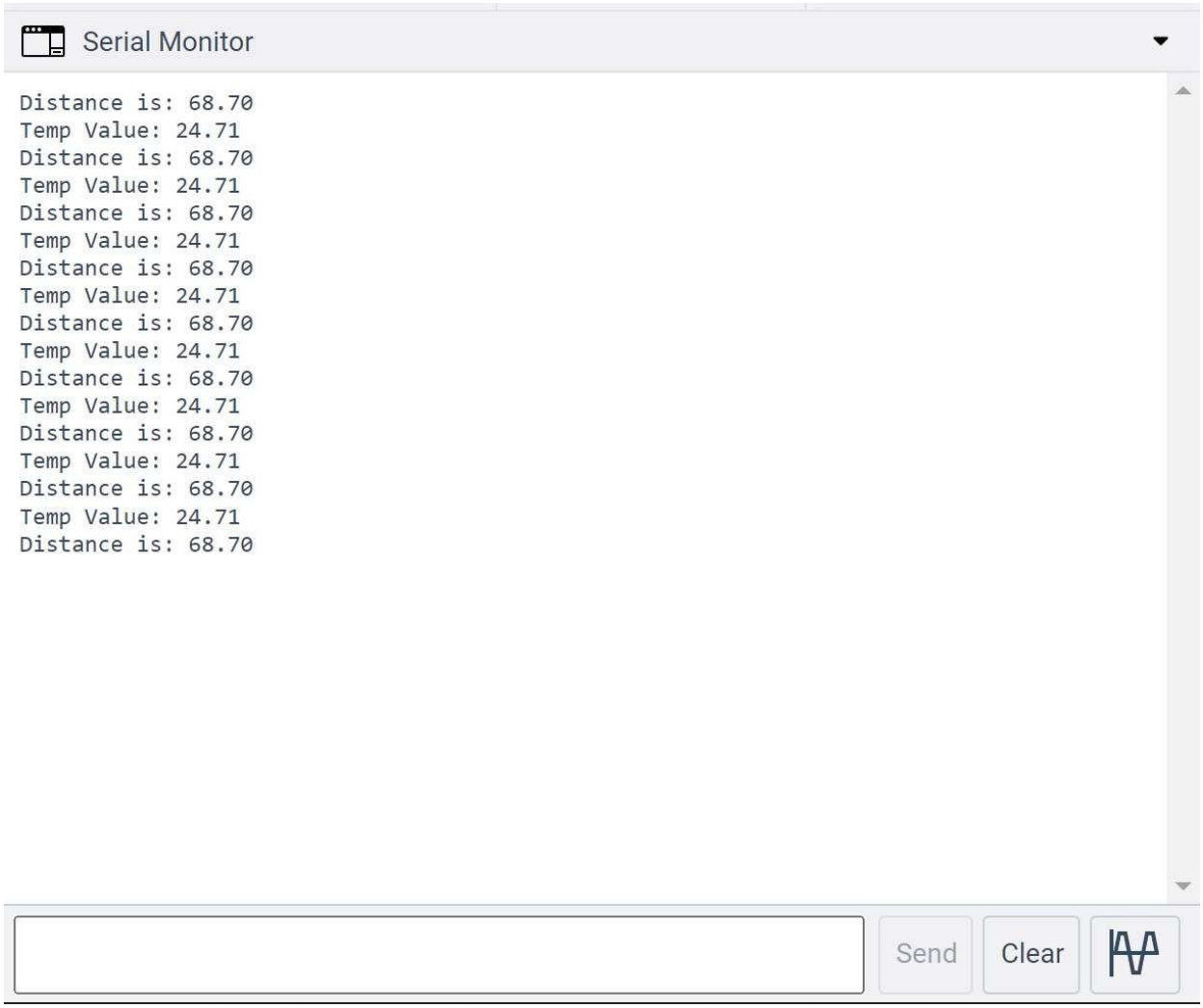
Code:

```
// 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);
 }
}
```

Output Serial Monitor:



Tinkercad Link:

https://www.tinkercad.com/things/kYcyM1UKDW9-glorious-trug%02kup/editel?sharecode=PNznT5MqDVya1hlNSESy3G2Fg4vKznWRJV_7RGBzpzo