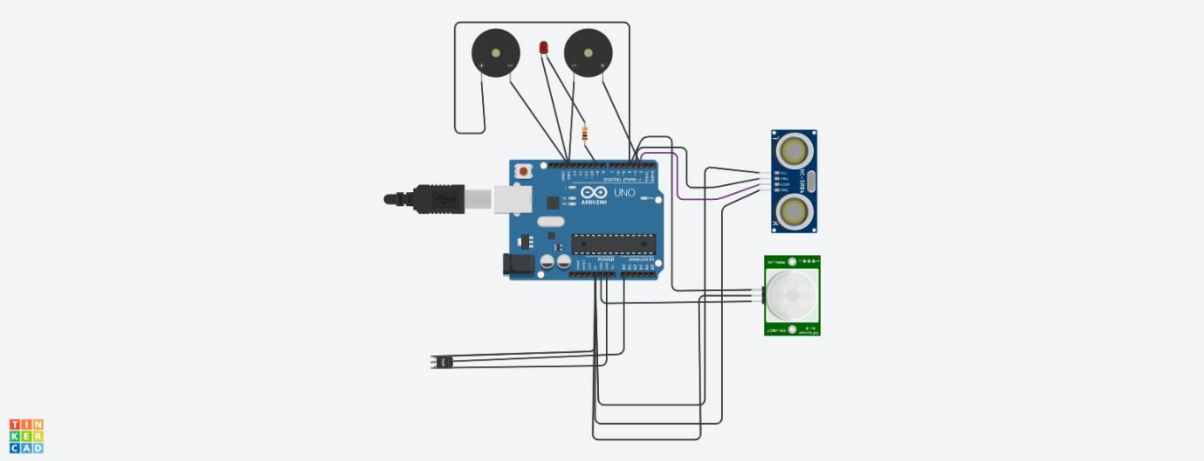
ASSIGNMENT 1

CIRCUIT DESIGN:



CODE:

```
#include <LiquidCrystal.h> //LCD library

 #define echo 2
 #define trig 3

 float  duration; // time taken by the pulse to return back
 float  distance;
int sensor_Input;
 float temp;// oneway distance travelled by the pulse

 LiquidCrystal lcd(13, 12, 11, 10, 9, 8);//lcd(RS,EN,D4,D5,D6,D7)

 void setup() {

  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
  Serial.begin(9600);
  lcd.begin(16, 2);

 }

 void loop() {

  time_Measurement();
  distance = duration * (0.0343) / 2;// calculate the oneway distance travelled by the pulse
  display_distance();
  measure_Temp();

 }
```

```
 void time_Measurement()
 { //function to measure the time taken by the pulse to return back
  digitalWrite(trig, LOW);
  delayMicroseconds(2);

  digitalWrite(trig, HIGH);
  delayMicroseconds(10);
  digitalWrite(trig, LOW);

  duration = pulseIn(echo, HIGH);
 }
void measure_Temp()
 {
  sensor_Input = analogRead(A0);
  temp = (float)sensor_Input / 1024;
  temp = temp * 5;
  temp = temp - 0.5;
  temp = temp * 100;
        Serial.print("Temp in C: ");
  Serial.print(temp);
  Serial.println();
 }
 void display_distance()
 { //function to display the distance on LCD/Serial Monitor
  Serial.print("Distance in Cm: ");
  Serial.print(distance);
  Serial.println();
  delay(1000);
  }
```