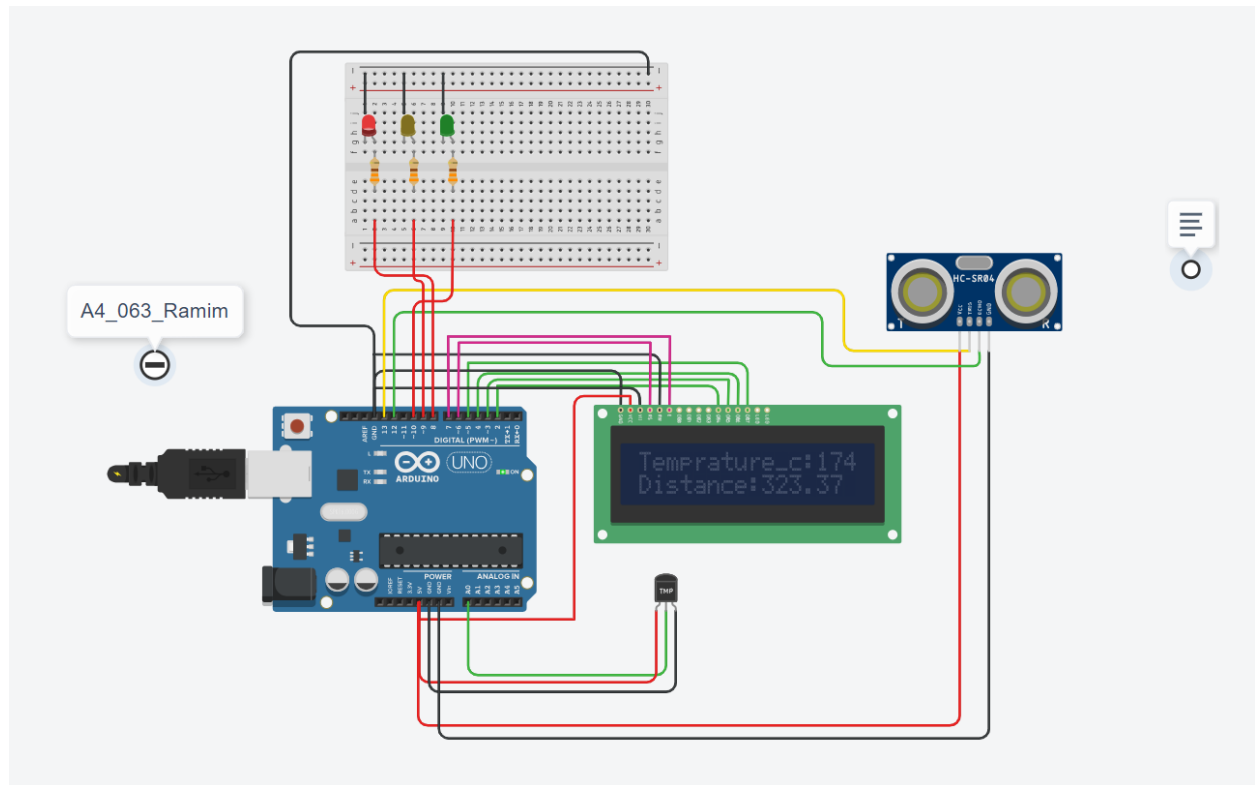# INTERNET OF THINGS LAB ASSIGNMENT

Course code: CSE-402
Submitted to:
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1. Temperature and Ultrasonic Sensor

Circuit Figure:

Code:

```
#include <LiquidCrystal.h>

char temp[] ="Temprature_c:";

char dist[] = "Distance: ";

int trigPin=13;

int echoPin=12;

int ledPin[] = {8,9,10};

int pinCount = 3;

LiquidCrystal lcd(6,7,2,3,4,5); // Rs, E, D4, D5 D6, D7
```

```cpp
void setup()
{
  pinMode(A0,INPUT);


  pinMode(trigPin, OUTPUT);

  pinMode(echoPin, INPUT);


  for(int i=0;i<pinCount;i++){

  pinMode(ledPin[i], OUTPUT);

  }


  lcd.begin(16,2);

  Serial.begin(9600);

  delay(1000);
}


void loop()
{
 //temp

 int sensorValue = analogRead(A0);

 float mV=(sensorValue/1023.0)*5000;

 int tempCel=mV/10;

 Serial.println(tempCel);


 //distance

 digitalWrite(trigPin, LOW);
```

```
  delayMicroseconds(2);

  digitalWrite(trigPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(trigPin, LOW);


  long duration = pulseIn(echoPin, HIGH);

  float distance = (0.0332*duration)/2;


  //led

  if(tempCel >= 75 && distance >= 175){

   digitalWrite(ledPin[0], HIGH);

   delay(1000);

   digitalWrite(ledPin[0], LOW);


  }else if(tempCel >= 50 && distance >= 150){

   digitalWrite(ledPin[1], HIGH);

   delay(1000);

   digitalWrite(ledPin[1], LOW);

  }else{

   digitalWrite(ledPin[2], HIGH);

   delay(1000);

   digitalWrite(ledPin[2], LOW);

  }



  lcd.setCursor(0,0);
```

```
lcd.print(temp);


lcd.setCursor(13,0);

lcd.print(tempCel);


Serial.println(temp);

lcd.setCursor(0,1);

lcd.print(dist);


lcd.setCursor(9,1);

lcd.print(distance);


Serial.println(distance);

delay(2000);


}
```

The End