AES Mini Project

Aim: Using Arduino UNO, display temperature and humidity on an LCD display which is being sensed by DHT11.

Description:

1. Arduino:

- Arduino is an open-source platform used for building electronics projects.
- Arduino consists of both a physical programmable circuit board and a piece of software, or IDE runs on your computer, used to write and upload computer code to the physical board.
- Arduino UNO has 14 digital pins and 6 analog pins.

2. DHT11:

- DHT11 is a low cost digital sensor for sensing temperature and humidity.
- This can be easily interfaced with any microcontroller like Arduino, Raspberry Pi etc to measure humidity and temperature instantaneously.

3. LCD:

- A liquid-crystal display (LCD) is a flat-panel display or other electronically modulated optical device that uses the light-modulating properties of liquid crystals combined with polarizer.
- Liquid crystals do not emit light directly, instead using a backlight or reflector to produce images in color or monochrome.
- It is a 16 x 2 LCD display. That is, it has 16 columns and 2 rows.

Required Components:

➔ Arduino Uno (1x)
➔ LCD 16 x 2 (1x)
➔ DHT11 (1x)
➔ Jump Wires

Connections:

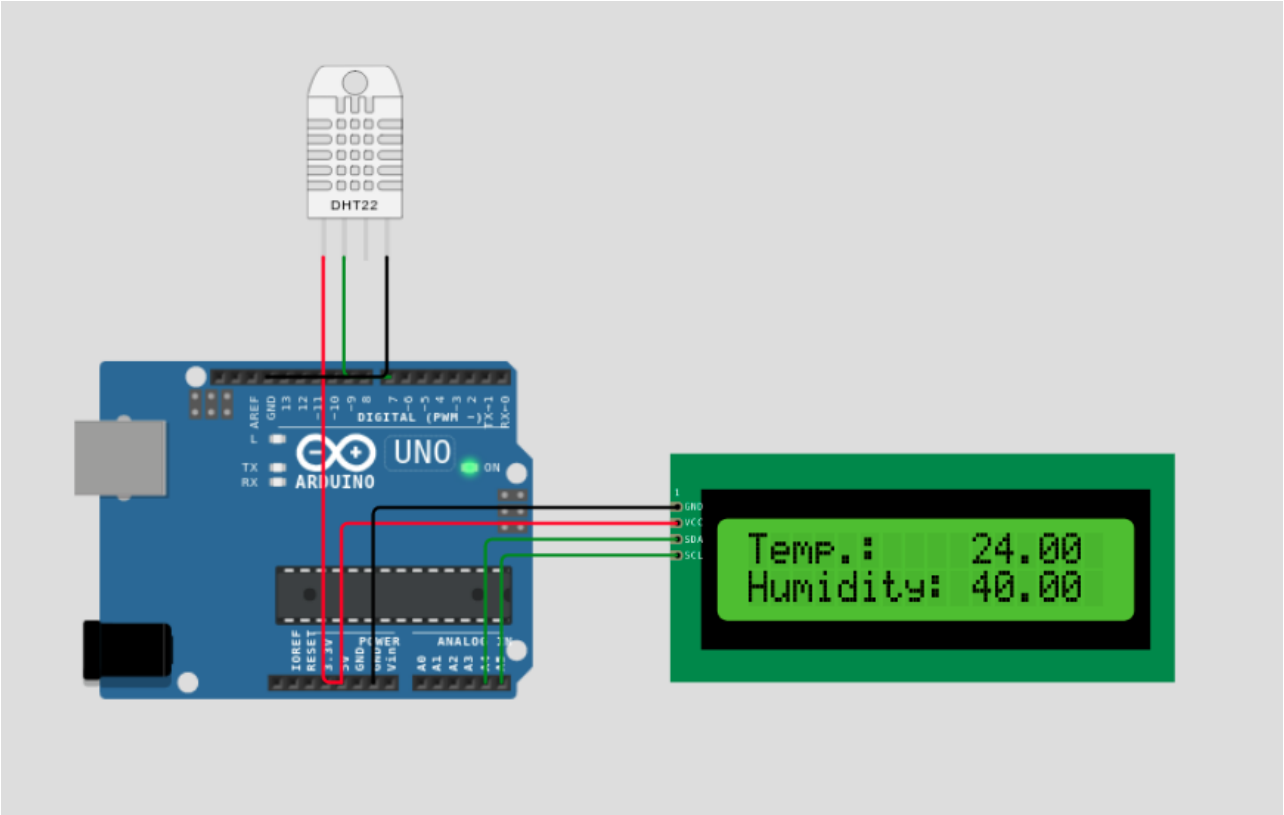
1. Between Arduino and DHT11

Arduino	DHT11
DP 7	SDA
GND	GND
5V	VCC

2. Between Arduino and LCD

Arduino	LCD
A4	SDA
A5	SCL
GND	GND
5V	VCC

Circuit Diagram:



Project Link:

[Click here to check project]

Code:

```
#include <dht.h>
#include <LiquidCrystal_I2C.h>
dht DHT;
LiquidCrystal_I2C lcd(0x27, 16, 2);

void setup() {
  // put your setup code here, to run once:
  lcd.init();
  lcd.backlight();
}

void loop() {
  // put your main code here, to run repeatedly:
  int chk = DHT.read(7);
  lcd.setCursor(0, 0);
  lcd.print("Temp.:");
  lcd.setCursor(10, 0);
  lcd.print(DHT.temperature);
  lcd.setCursor(0, 1);
  lcd.print("Humidity:");
  lcd.setCursor(10, 1);
  lcd.print(DHT.humidity);
}
```