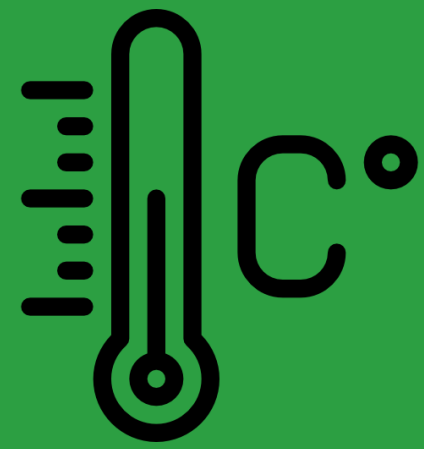
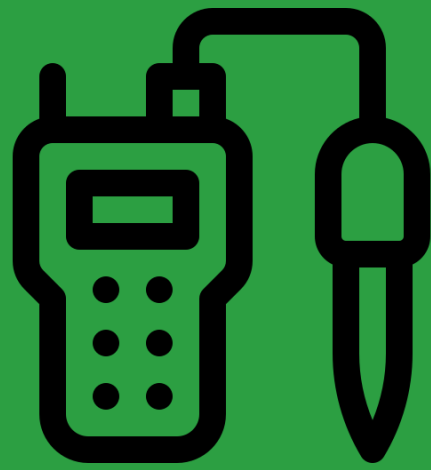


# Electric conductivity (EC) Monitoring System



# Problem statement

The manual EC measurement can only monitor the EC at a time and hardly to find the time when the EC measurement changes. A monitoring system that can monitor the EC measurement over time is needed to observe the changes on the EC measurement.

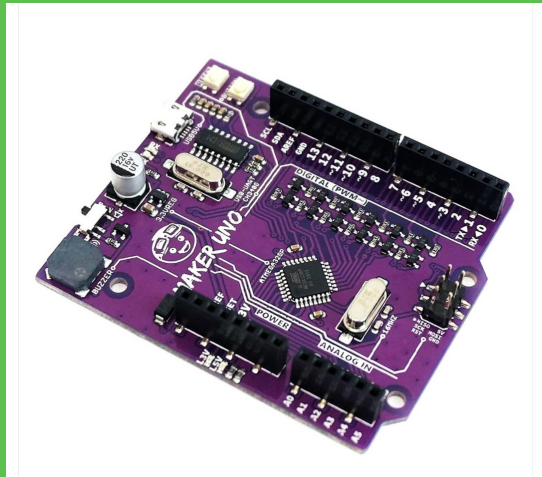


# Objectives

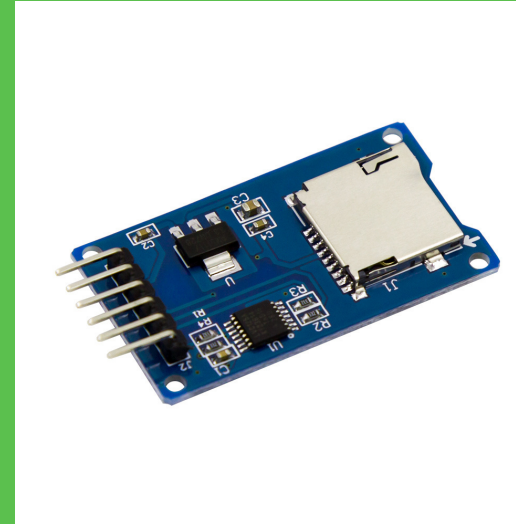
To develop a monitoring system that can monitor and save the data of the EC measurement using Arduino Uno. The saved data can be used for data analysis and other research.



# Hardware Specifications

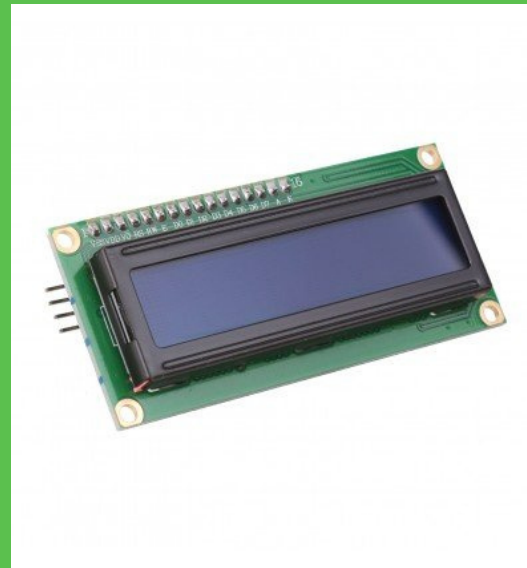


MAKER UNO

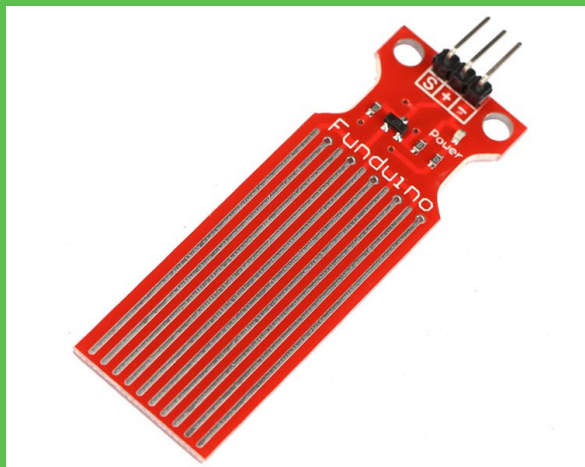


Micro SD card  
module

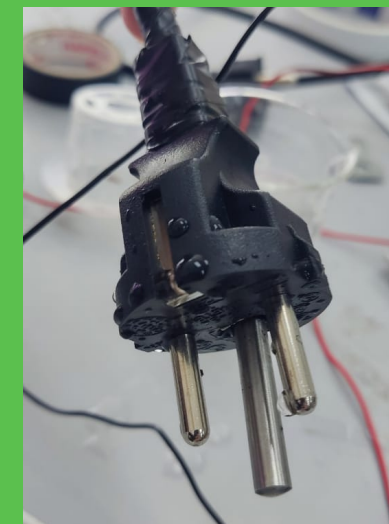
LCD Display I2C



Temperature  
probe



Water level  
sensor



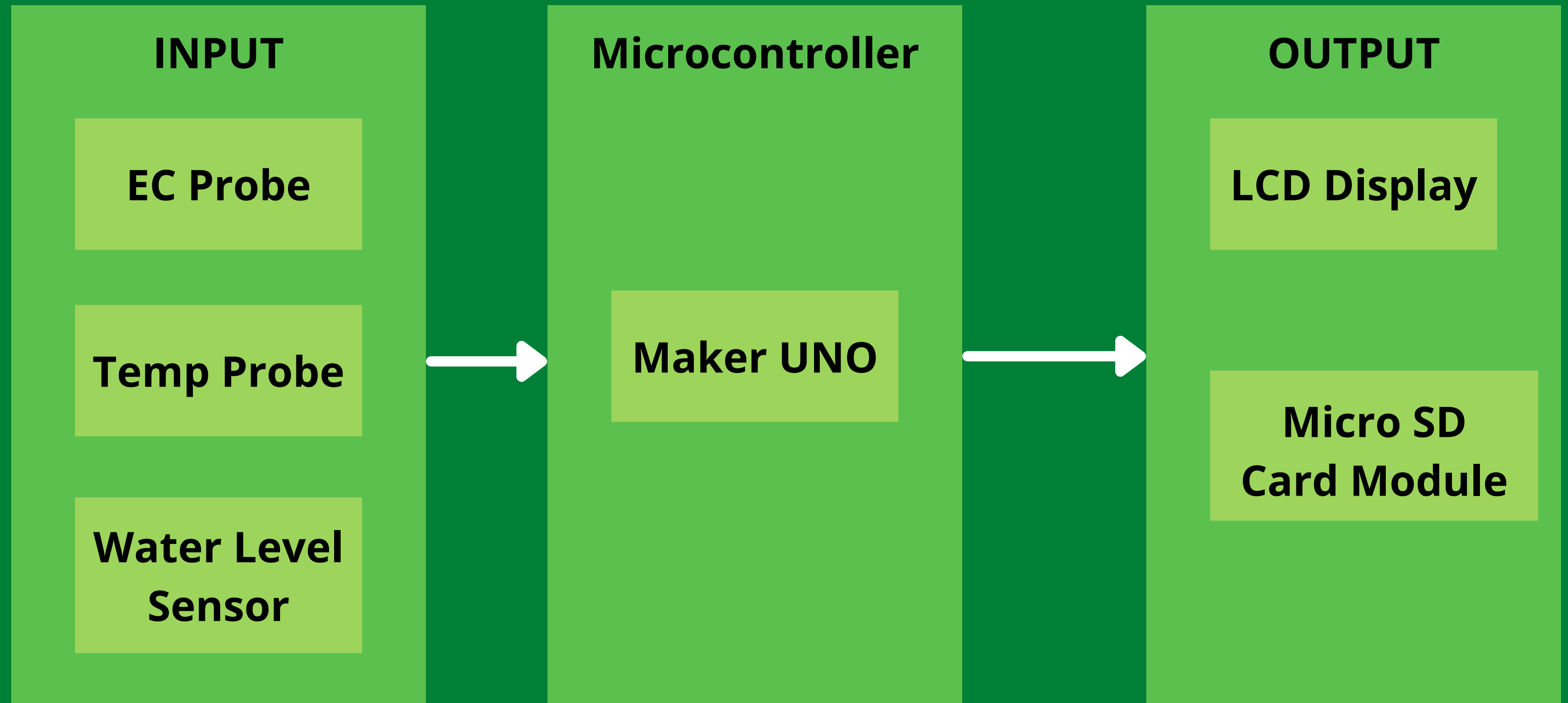
EC probe

# Software Specifications

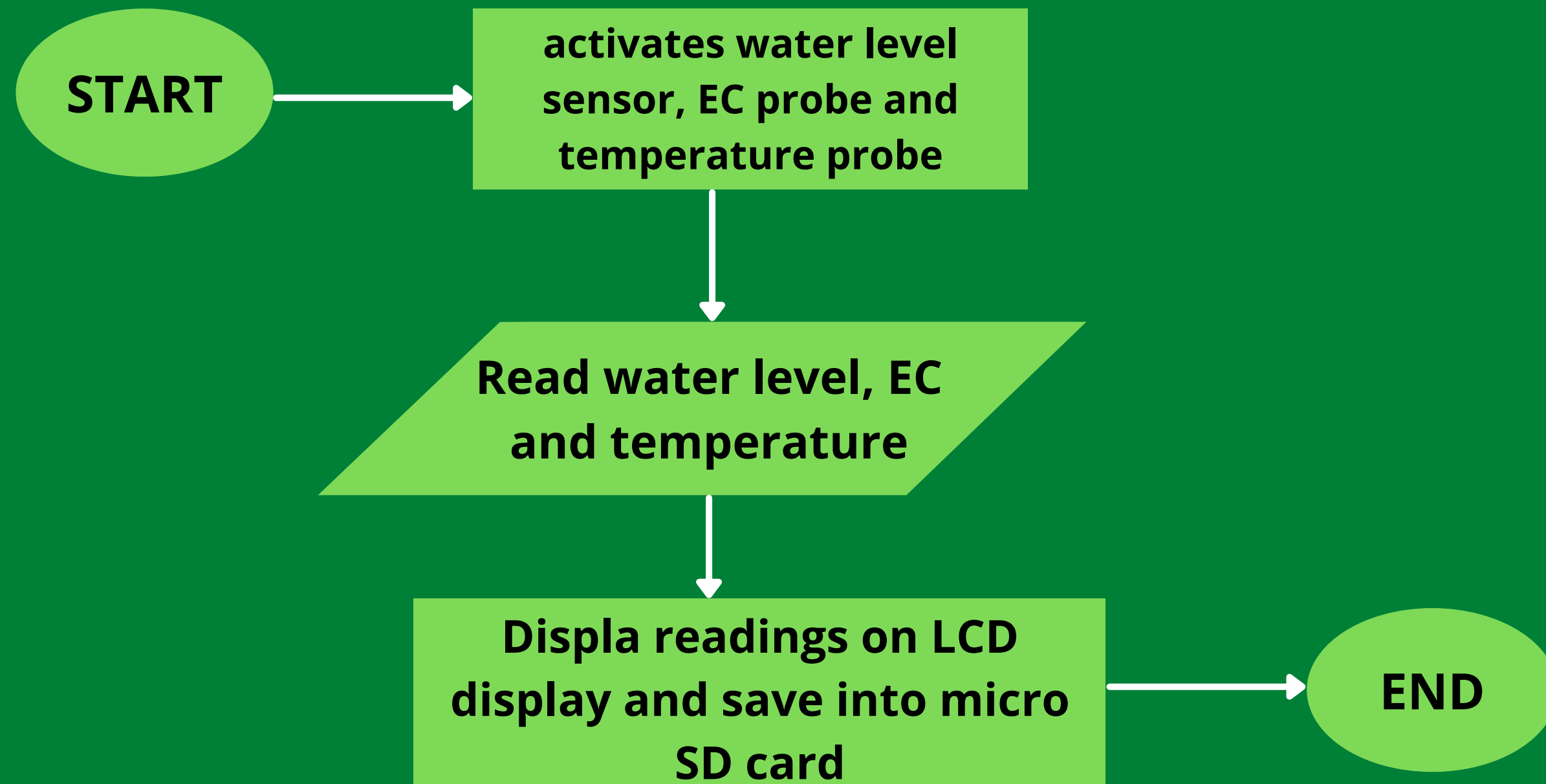


Arduino IDE

# Block Diagram

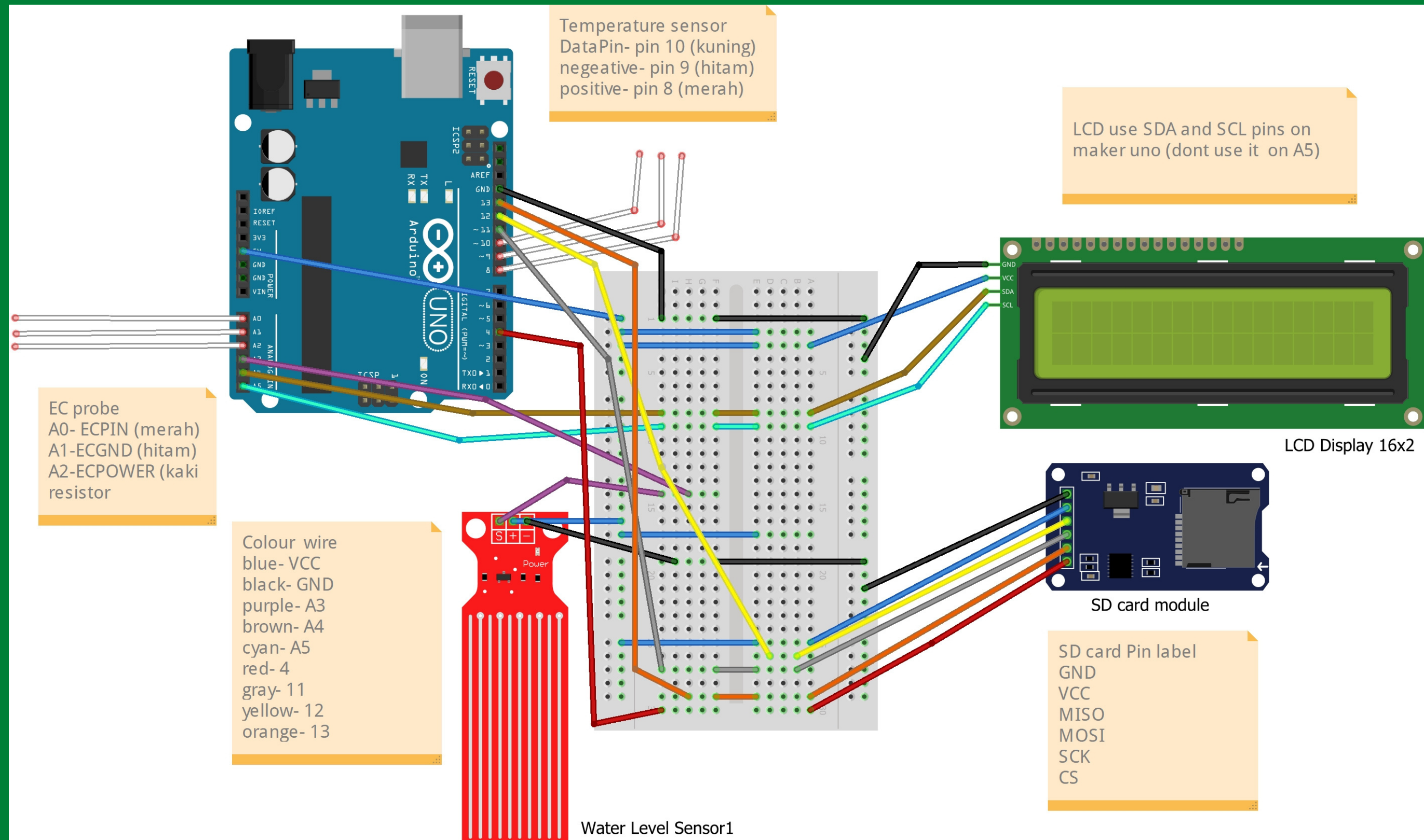


# Flow Chart





# Schematic Diagram





# Arduino Setup

Install Arduino IDE :

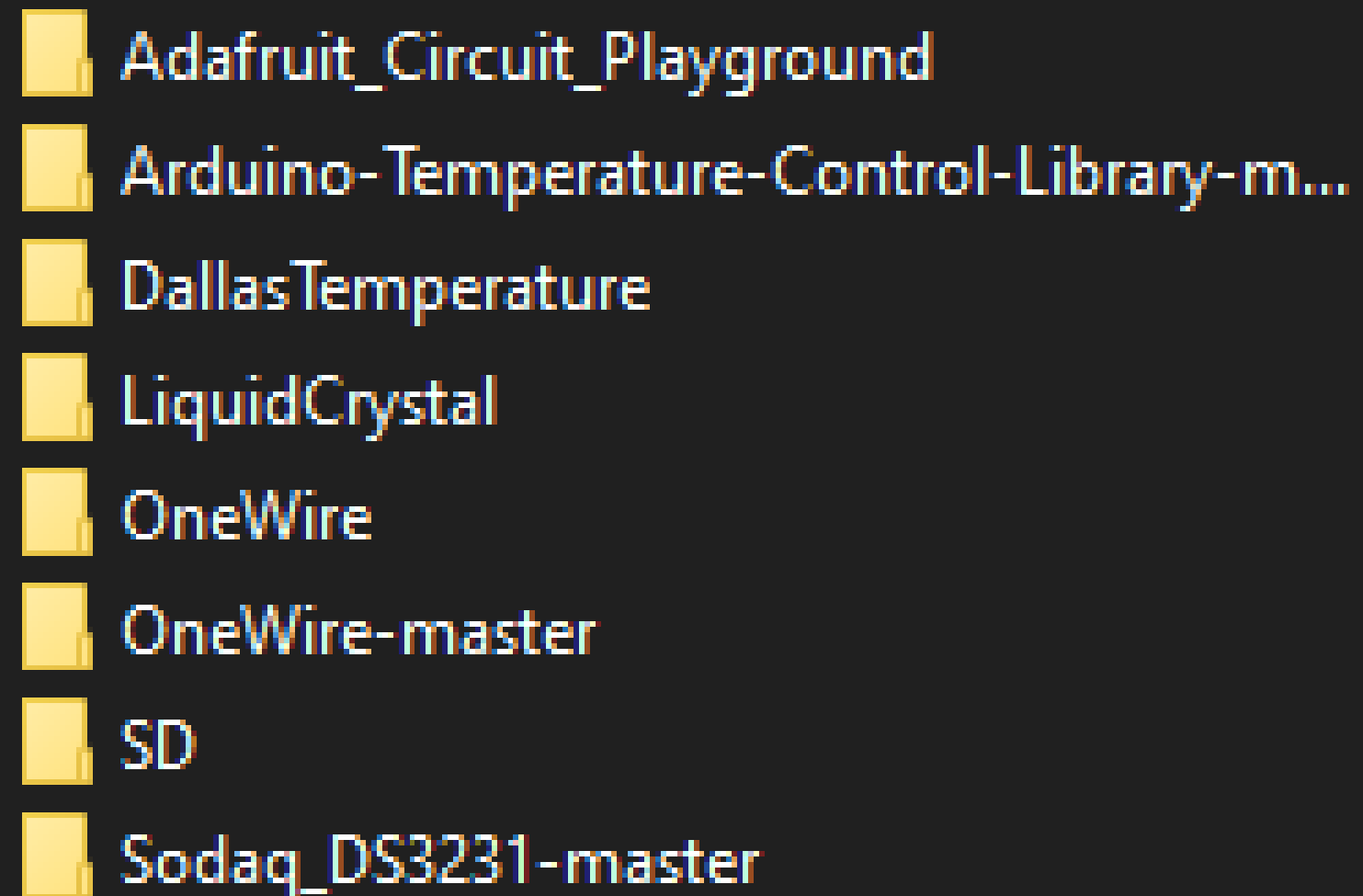
<https://www.arduino.cc/en/software>

Install Maker Uno Driver:

<https://cdn.cytron.io/makeruno/CH341SER.EXE>

# Arduino Setup

Copy & paste these files into Program Files/Arduino/libraries



A screenshot of a file explorer window with a dark background. It displays a list of eight folders, each preceded by a yellow folder icon. The folders are: Adafruit\_Circuit\_Playground, Arduino-Temperature-Control-Library-m..., DallasTemperature, LiquidCrystal, OneWire, OneWire-master, SD, and Sodaq\_DS3231-master.

- Adafruit\_Circuit\_Playground
- Arduino-Temperature-Control-Library-m...
- DallasTemperature
- LiquidCrystal
- OneWire
- OneWire-master
- SD
- Sodaq\_DS3231-master

# References

EC sensor: <https://create.arduino.cc/projecthub/mircemk/arduino-electrical-conductivity-ec-ppm-tds-meter-c48201>

refer this link for EC and temp probe circuit

Micro SD card: <https://create.arduino.cc/projecthub/electropeak/sd-card-module-with-arduino-how-to-read-write-data-37f390>

refer this link to convert text data into excel

# CODING

please refer the pH\_EC.ino file for the arduino coding. The description of the coding are included using comment symbol

`"//comment" /*commmend*/"`

please refer the EC monitoring test.ino to for only monitoring the measurement without saving into SD card.