

CPE Final Project

Project Members- Tania Jaswal and Jasmine Wells

Overview of the design-

The goal of this project is to build an evaporation cooling system (swamp cooler). The swamp cooler will monitor the water levels in a reservoir and print an alert when the level is too low. It will display the current air temp and humidity on an LCD screen. It will start and stop a fan motor as needed. It will allow a user to use a control to adjust the angle of an output vent from the system. It can also enable or disable the system using an on/off button. It will record the time and date every time the motor is turned on or off.

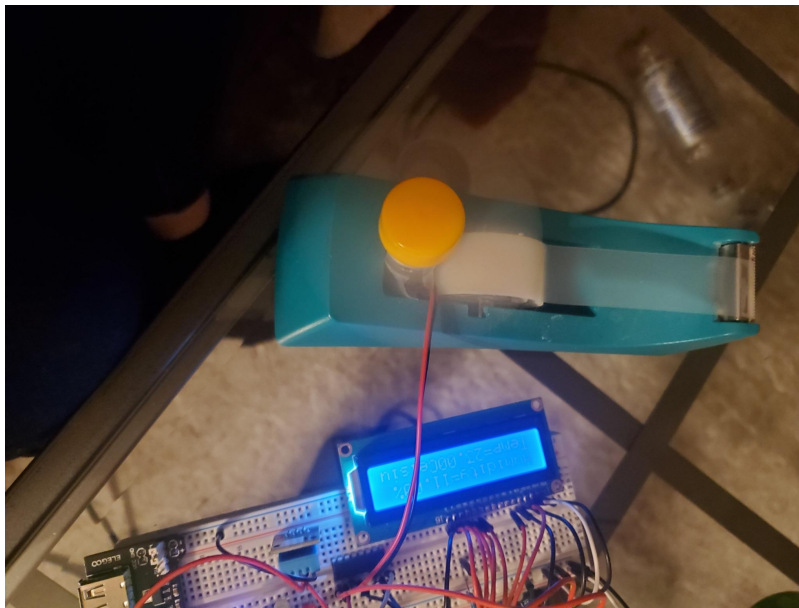
Constraints during the project-

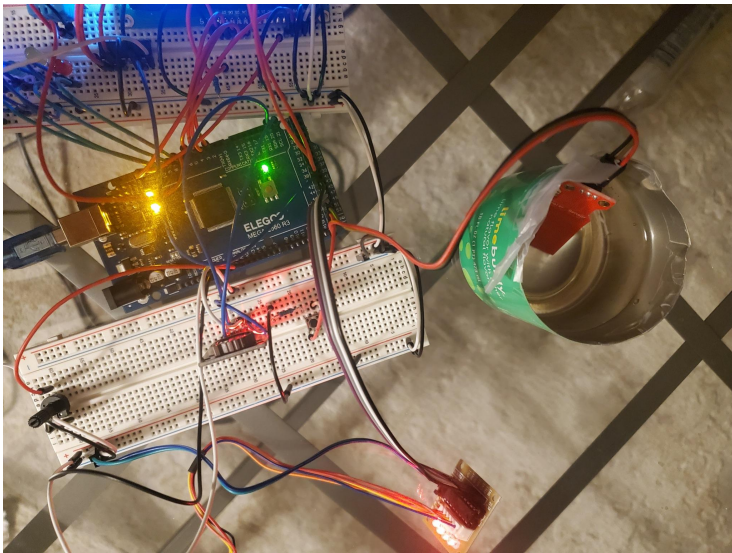
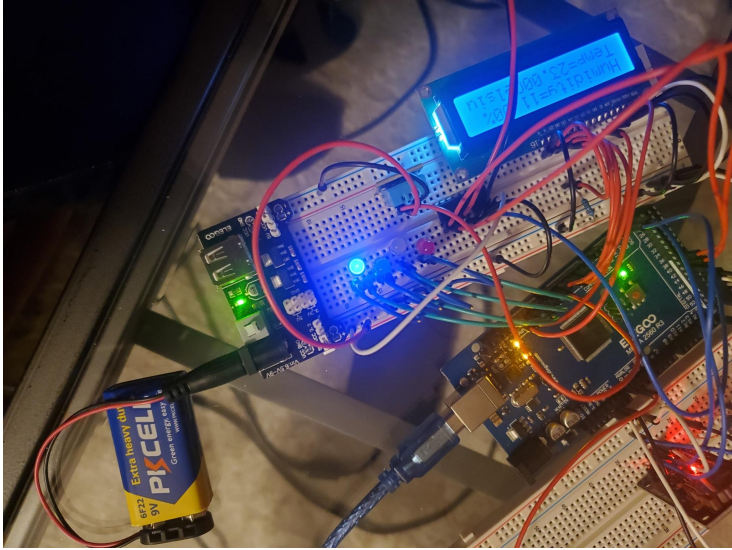
Some constraints that we faced during this project were that the LCD doesn't work unless it is attached to the 3.3v rather than the 5v. Also, the water level sensor is reading higher water values even in less water levels.

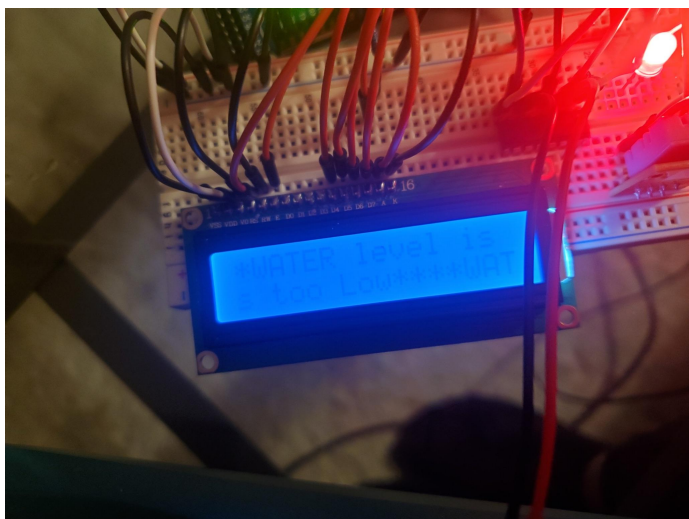
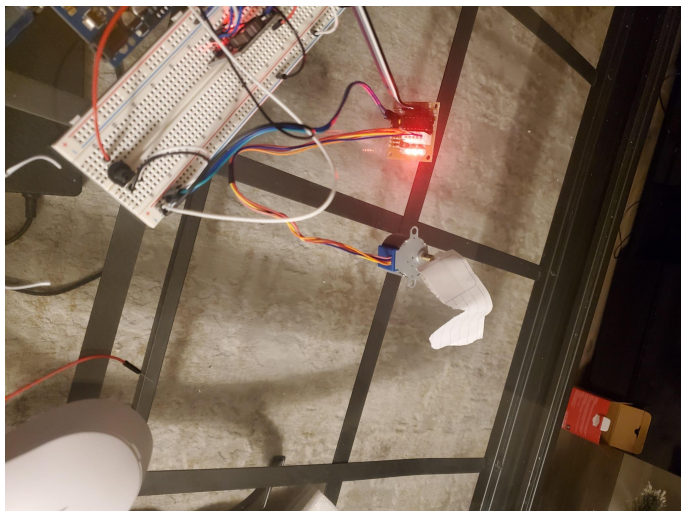
Hardware Components-

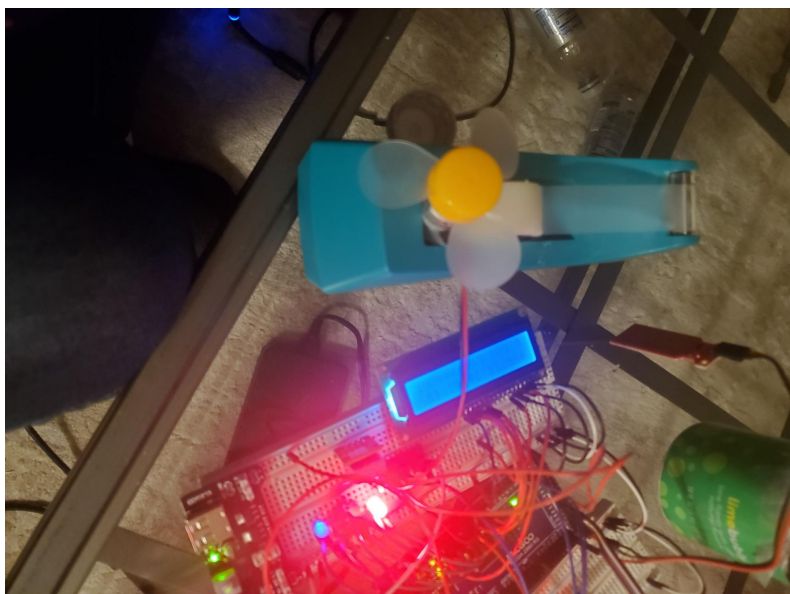
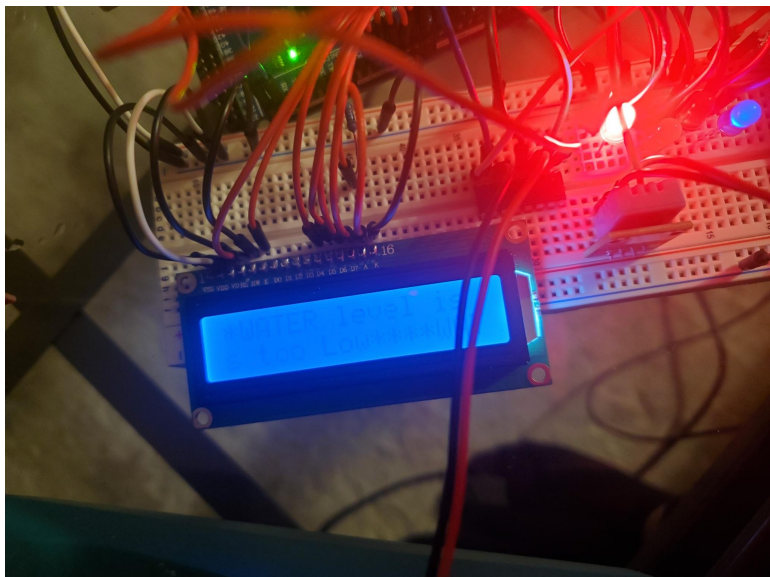
- 4x LED (red, blue, green, yellow)
- LCD module
- 10K Ω Potentiometer
- DHT11 Temperature and Humidity Sensor
- Push Button
- 330 Ω Resistors
- Fan Blade and 3-6 V DC motor
- Water Level Detection Sensor Module
- Servo Motor SG90
- Mega 2560 Arduino
- USB Power Supply Cable

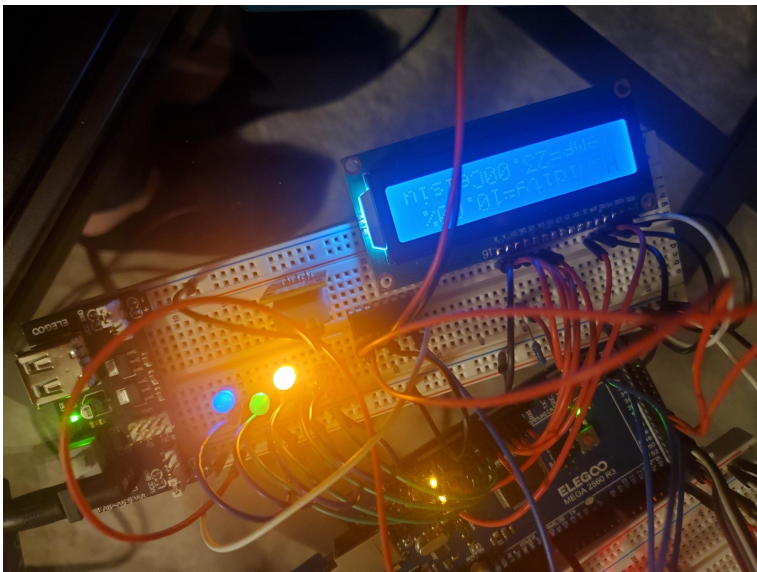
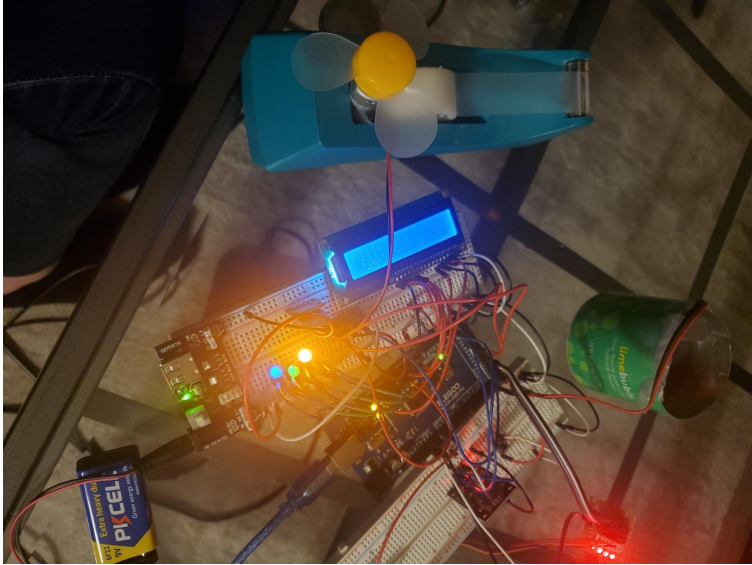
Pictures-

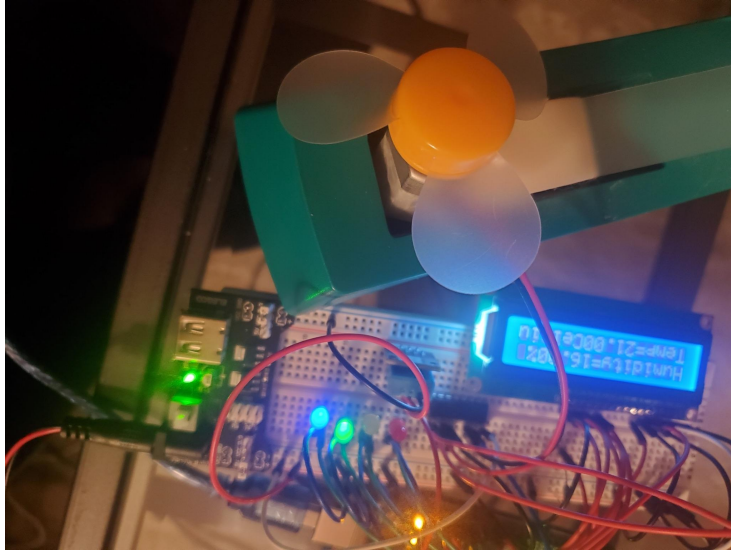






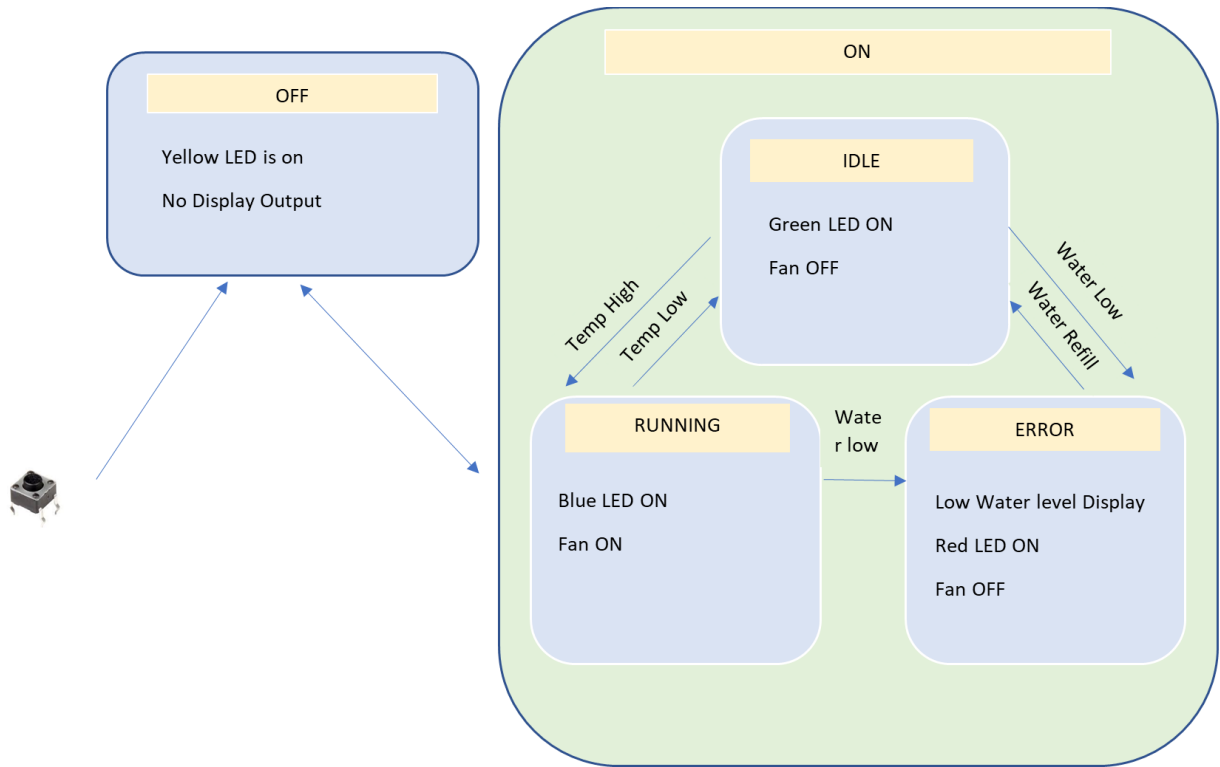






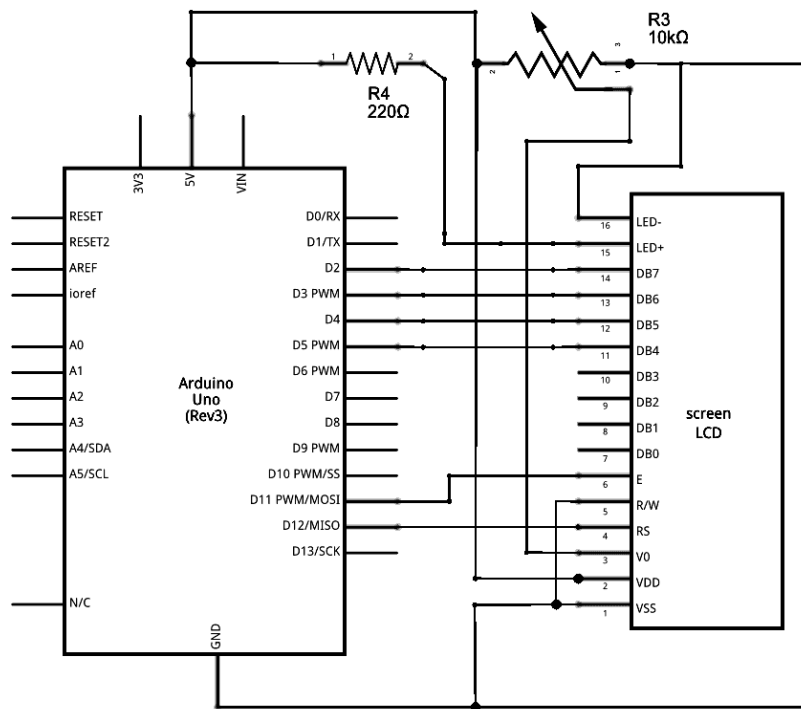
GitHub Link- <https://github.com/Jaswal-Tania/CPE-301-Final.git>

State Diagram-

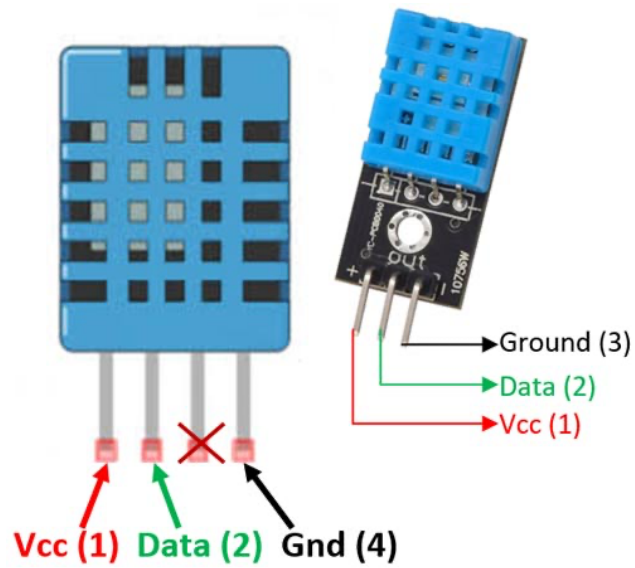


Schematics-

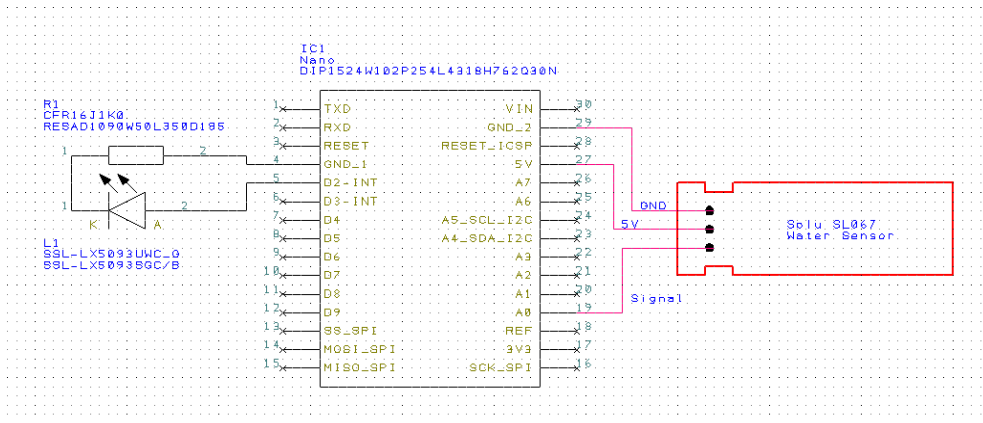
LCD-



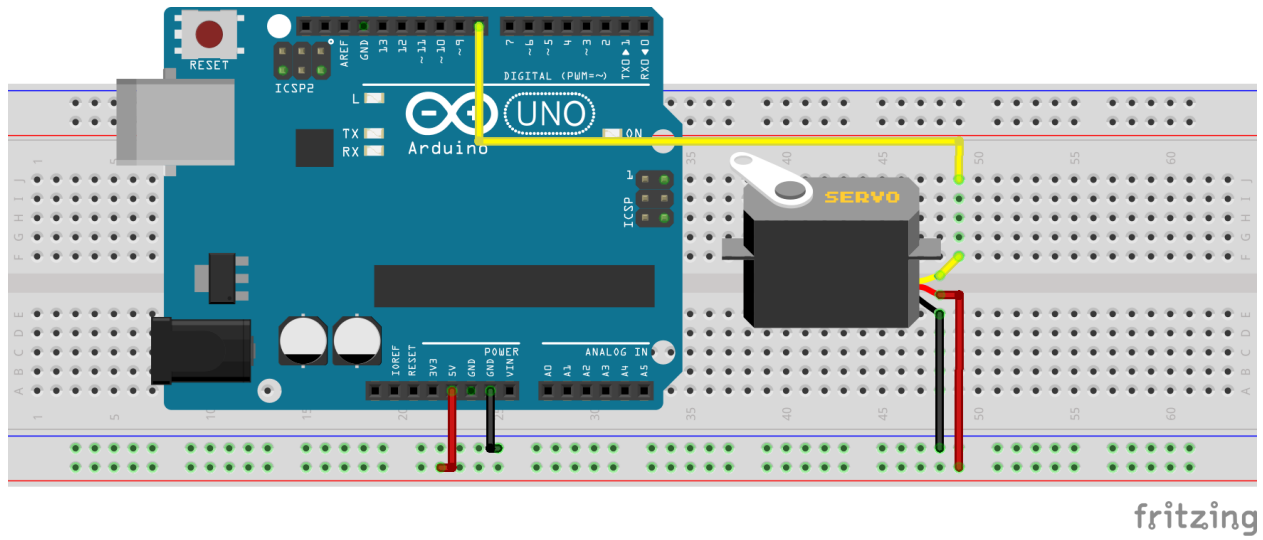
DHT11-



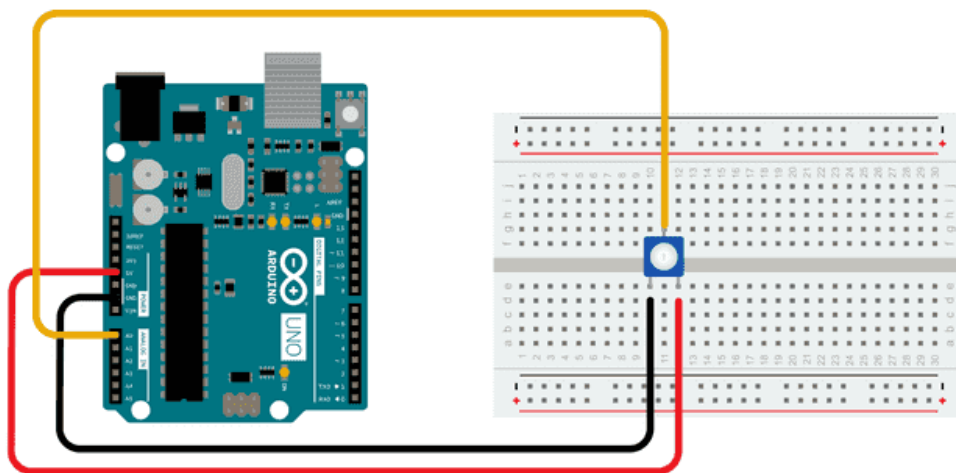
Water Level Sensor-



SG90 servo motor-



Potentiometer-



RTC Module-

