Results Document

Project Title: IOT Based Modern Fish Farming Aqua Resource Management System

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Start Date: 31-03-2023

Expected Completion Date: 16-07-2023

Team: 15

Objectives

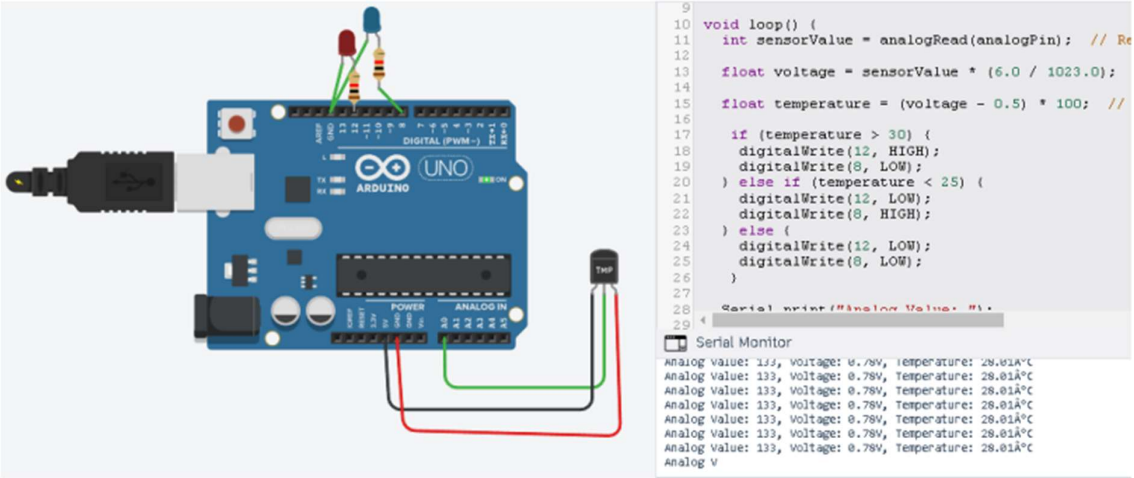
Aqua farmers can remotely monitor the water quality parameters such as ph, temperature, dissolved oxygen and turbidity

Automation of aerators based on dissolved oxygen level

Automation of water flow using flow control sensors and turbidity sensor

Results

1.Temperature sensor Output



When the temperature is high or low, the LEDs glow; otherwise, the ouput indicates that the temperature is normal. In this case, the LEDs are not glow. Serial monitor, it keeps track of sensor/Analog value, voltage and Temperature information. Based on formulas the sensor value is converted to voltage and voltage is converted to temperature value which are stored in voltage and temperature.

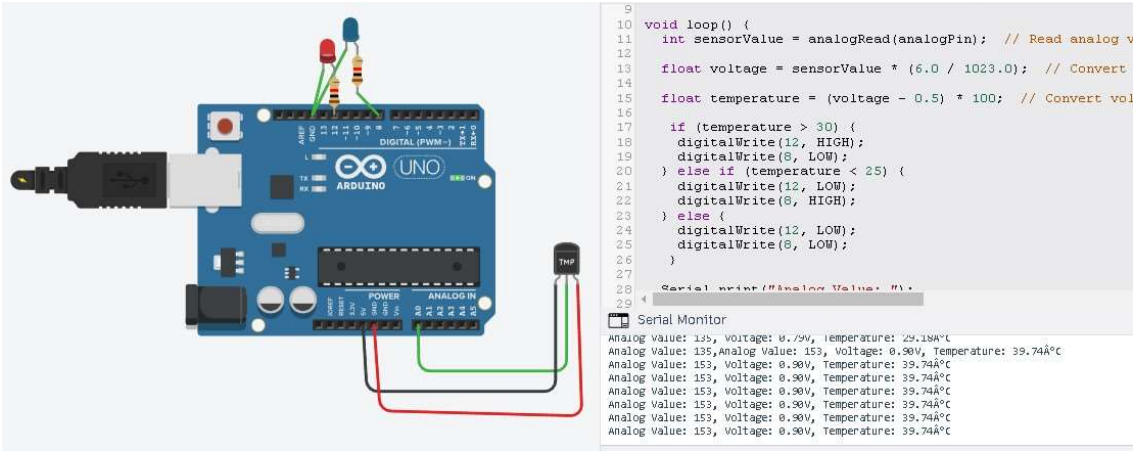


Fig.This output indicates that the temperature level is high(>30)

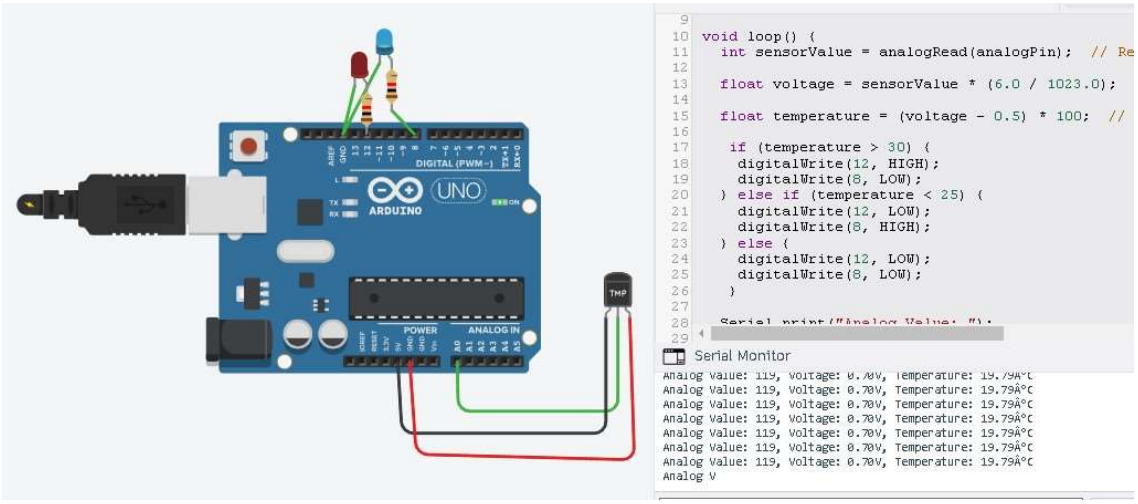
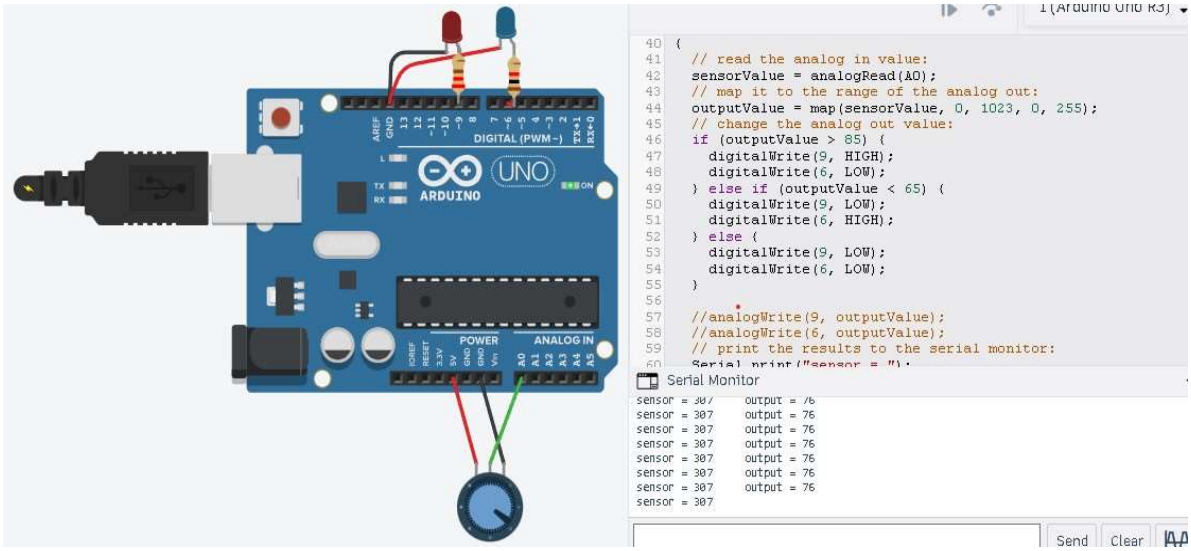


Fig.This output indicates that the temperature level is low(<25)

2. Ph sensor Output



We can programme the code to light the LEDs whenever the pH level is high or low and not do so otherwise, this output indicates that the ph level is normal. Serial monitor, it keeps track of output and sensor information. The analogRead(A0) function maps potentiometer values to sensor values, which are then saved in output values.

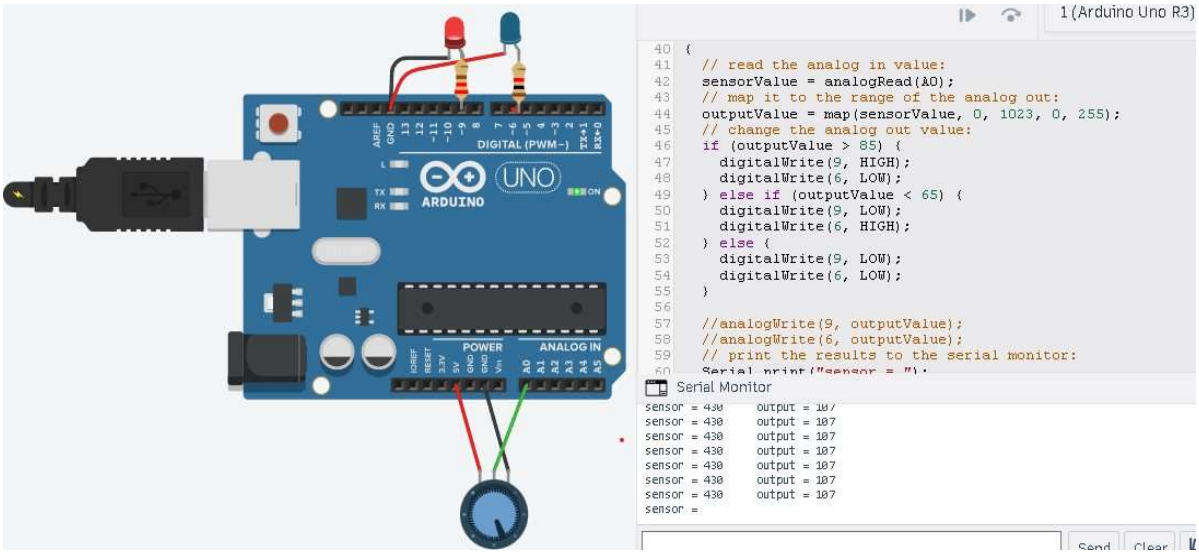


Fig.This output indicates that the ph level is high(>85)

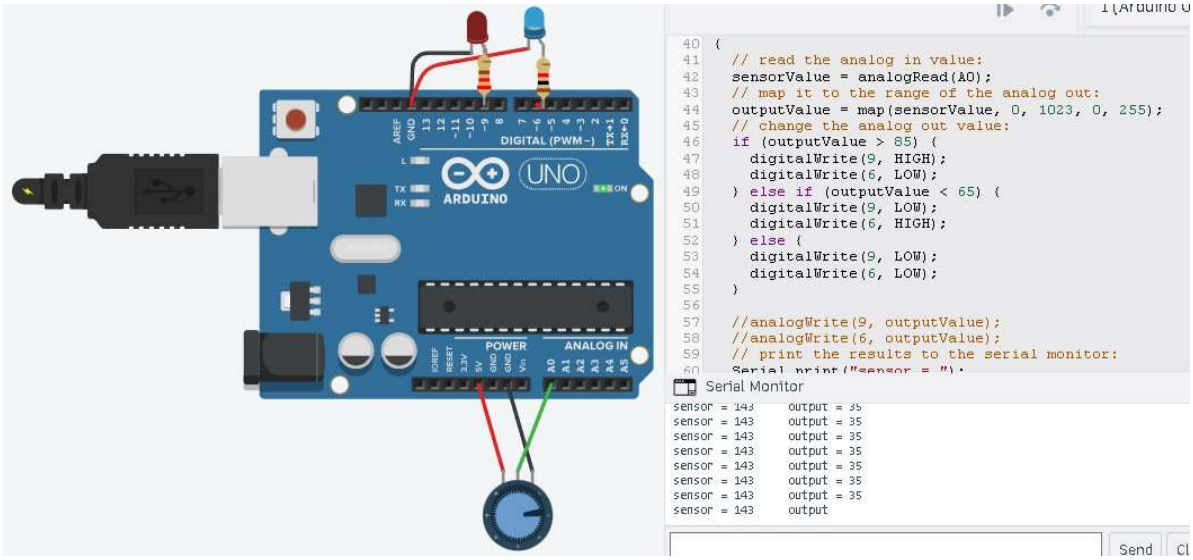
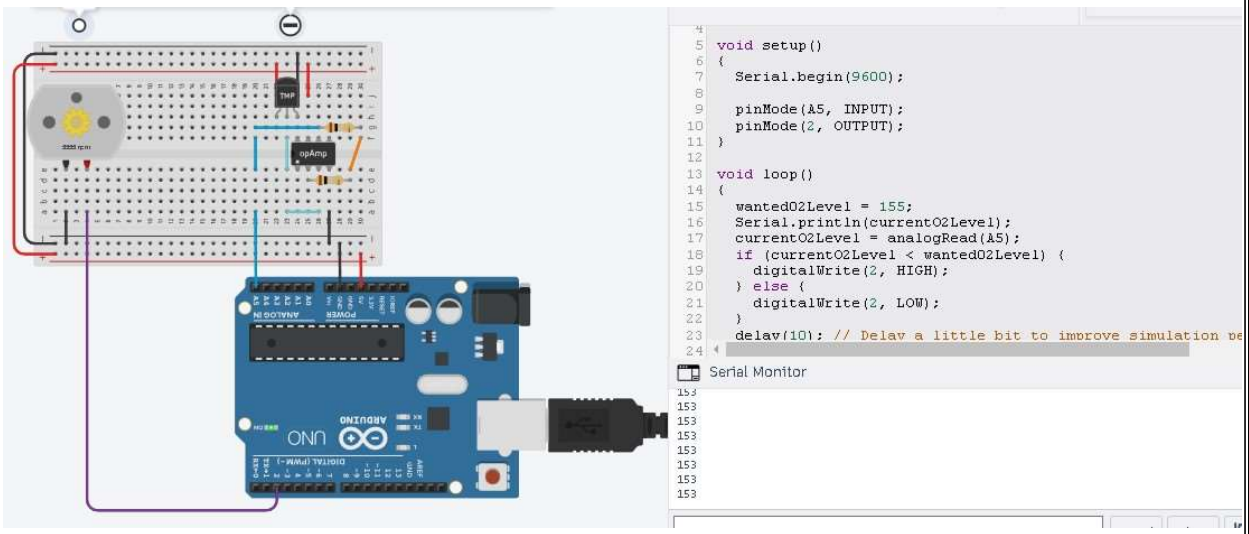


Fig. This output indicates that the ph level is low(<65)

3. Dissolved Oxygen sensor circuit Output



DC motor operates when the oxygen level is low which means the current oxygen level is lower than desired amount. This output indicates oxygen level is low Dc motor is ON.

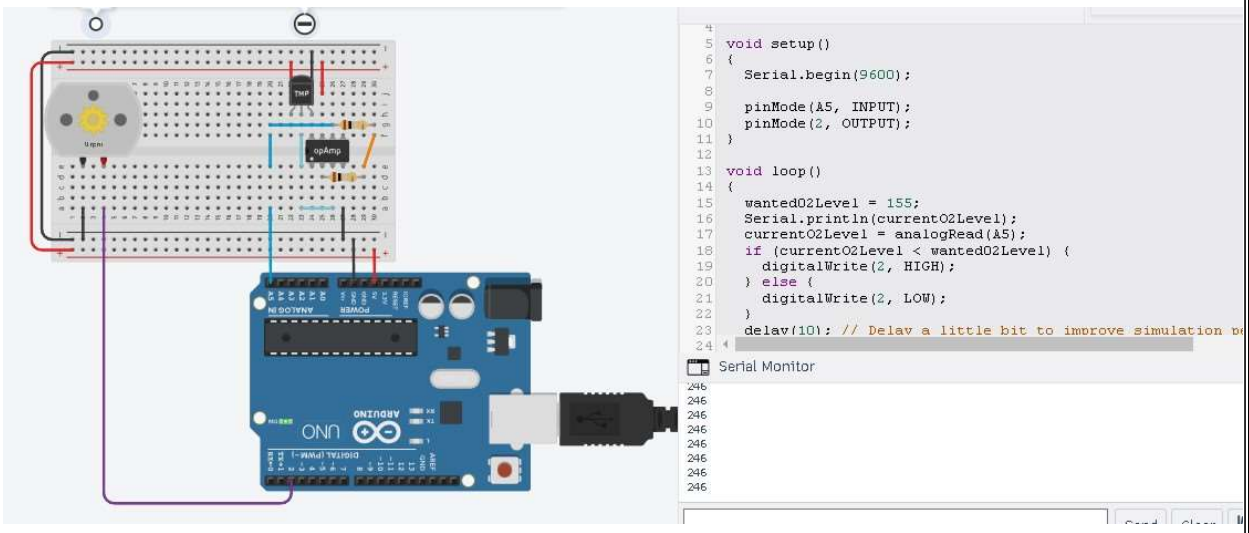
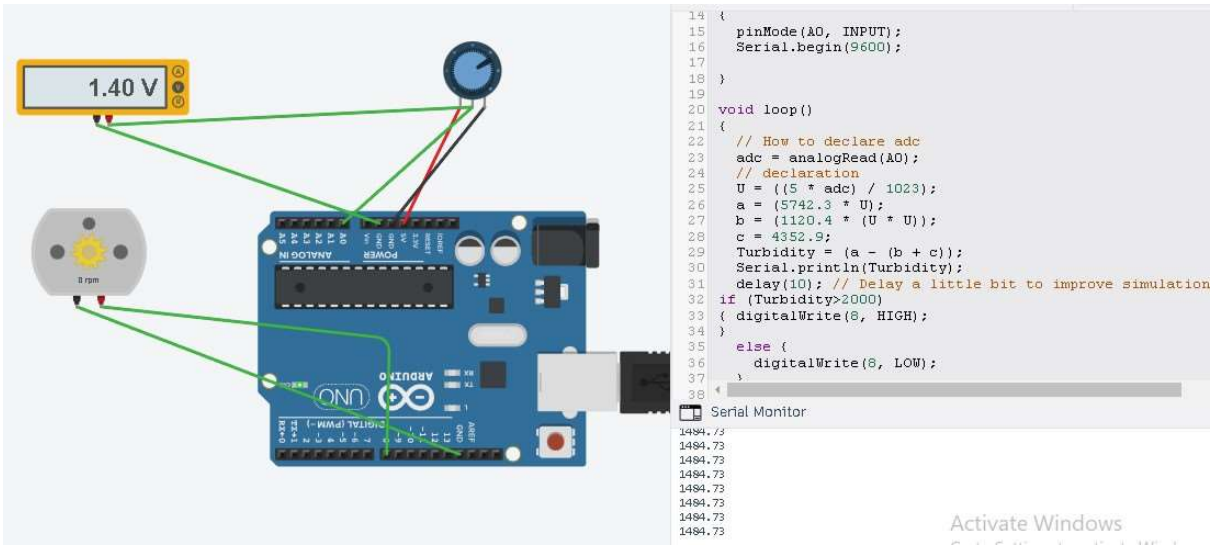


Fig.This output indicates oxygen level is normal Dc motor is OFF.

4. Turbidity sensor circuit Output



In this , potentiometer divides the voltages into turbidity values based to formula and some research calibrating values. If the turbidity value is high, an automatic water flow sensor ON this turbidity water flows out from tank from one pipe and dc motor turn on to fresh water enter into the tank from another pipe, respectively. And we can use the water level sensor to resist the water level of tank . This output indicates the turbidity is low therefore dc motor OFF.

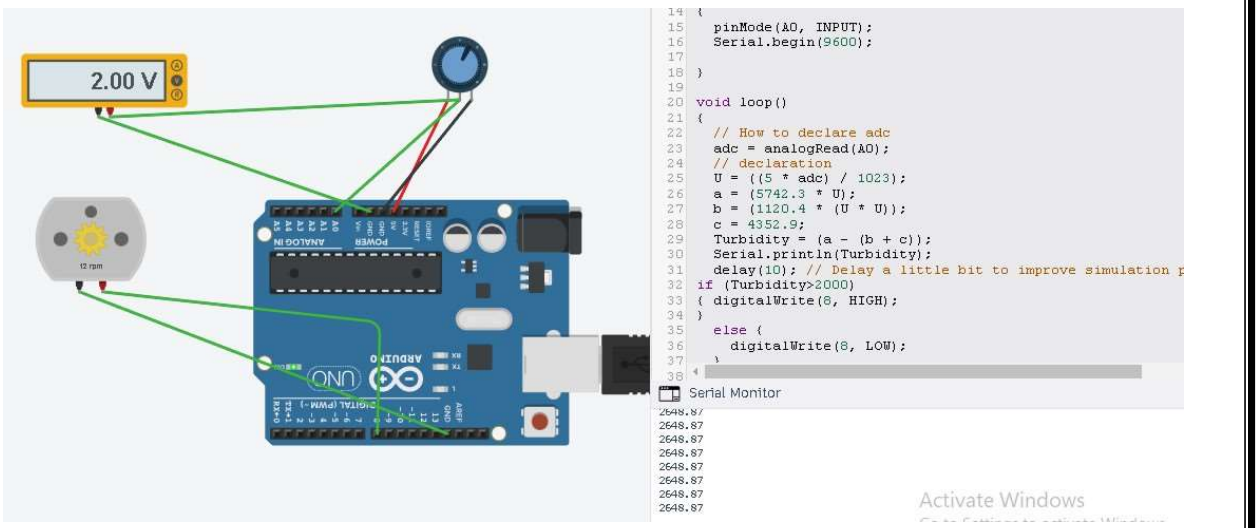


Fig. This output indicates the turbidity is high, dc motor ON.