SMART WATER FOUNTAIN

CODE

```cpp
include "RTClib.h"
#include "DHT.h"

#define DHTPIN 8
#define DHTTYPE DHT22

DHT dht(DHTPIN, DHTTYPE);

#include <LiquidCrystal_I2C.h>
#define I2C_ADDR 0x27
#define LCD_COLUMNS 20
#define LCD_LINES 4


LiquidCrystal_I2C lcd(I2C_ADDR, LCD_COLUMNS,
LCD_LINES); String data;
int relay1=3;
int relay2=4;
int relay3=5;
int relay4=6;
RTC_DS1307 rtc;
char daysOfTheWeek[7][12] = {"Sunday", "Monday", "Tuesday", "Wednesday",
"Thursday", "Friday", "Saturday"};
void setup()
   { {
  Serial.begin(115200);
  Serial.println(F("DHT22 example!"));

  dht.begin();
    }
{
  Serial.begin(115200);
   lcd.init();
  lcd.backlight();
  lcd.setCursor(3,0);
  lcd.print("welcome to");
  lcd.setCursor(2,1);
  lcd.print("SMART FARMING");
  delay(4000);
  pinMode(relay1, OUTPUT);
  pinMode(relay2, OUTPUT);
  pinMode(relay3, OUTPUT);
  pinMode(relay4, OUTPUT);
  Serial.println("welcome to my project");
```

```
    delay(500);
    if (! rtc.begin()) {
      Serial.println("Couldn't find RTC");
      Serial.flush();
      abort();
    }
    lcd.clear();

}
    }


void loop () {
    {
    float temperature = dht.readTemperature();
    float humidity = dht.readHumidity();

    // Check if any reads failed and exit early (to try
    again). if (isnan(temperature) || isnan(humidity)) {
      Serial.println(F("Failed to read from DHT
      sensor!")); return;
    }

    Serial.print(F("Humidity: "));
    Serial.print(humidity);
    Serial.print(F("% Temperature: "));
    Serial.print(temperature);
    Serial.println(F("°C "));
    lcd.setCursor(0,3);
      lcd.print("temp:");
      lcd.println(temperature);
      lcd.setCursor(10,3);
      lcd.print("hum:");
      lcd.println(humidity);
    delay(2000);
}



    DateTime now = rtc.now();
    Serial.print("Current time: ");
    Serial.print(now.year(), DEC);
    Serial.print('/');
    Serial.print(now.month(), DEC);
    Serial.print('/');
    Serial.print(now.day(), DEC);
    Serial.print(" (");
    Serial.print(daysOfTheWeek[now.dayOfTheWeek()])
    ; Serial.print(") ");
```

```cpp
Serial.print(now.hour(), DEC);
Serial.print(':');
Serial.print(now.minute(), DEC);
Serial.print(':');
Serial.print(now.second(), DEC);
Serial.println();
Serial.println();
delay(3000);
lcd.setCursor(3,0);
lcd.print("Time:");
lcd.print(now.hour(), DEC);
lcd.print(':');
lcd.print(now.minute(), DEC);
lcd.print(':');
lcd.print(now.second(), DEC);


if((now.second()> 1) &&
(now.second()<15)) {
lcd.setCursor(0,1);
lcd.print("Relay1:ON ");

 Serial.println("relay1 is on");
 digitalWrite(relay1, HIGH);
}
else{
  lcd.setCursor(0,1);
  lcd.print("Relay1:Off");
  digitalWrite(relay1,LOW);
}

 if((now.second()> 20) &&
(now.second()<30)) {
lcd.setCursor(10,1);
lcd.print("Relay2:ON ");
 Serial.println("relay2 is on");
 digitalWrite(relay2, HIGH);
}
else{
 lcd.setCursor(10,1);
lcd.print("Relay2:OFF");
digitalWrite(relay2,LOW);
}
if((now.second()> 35) &&
(now.second()<45)) {
 lcd.setCursor(0,2);
lcd.print("Relay3:ON ");
 Serial.println("relay3 is on");
 digitalWrite(relay3, HIGH);
```
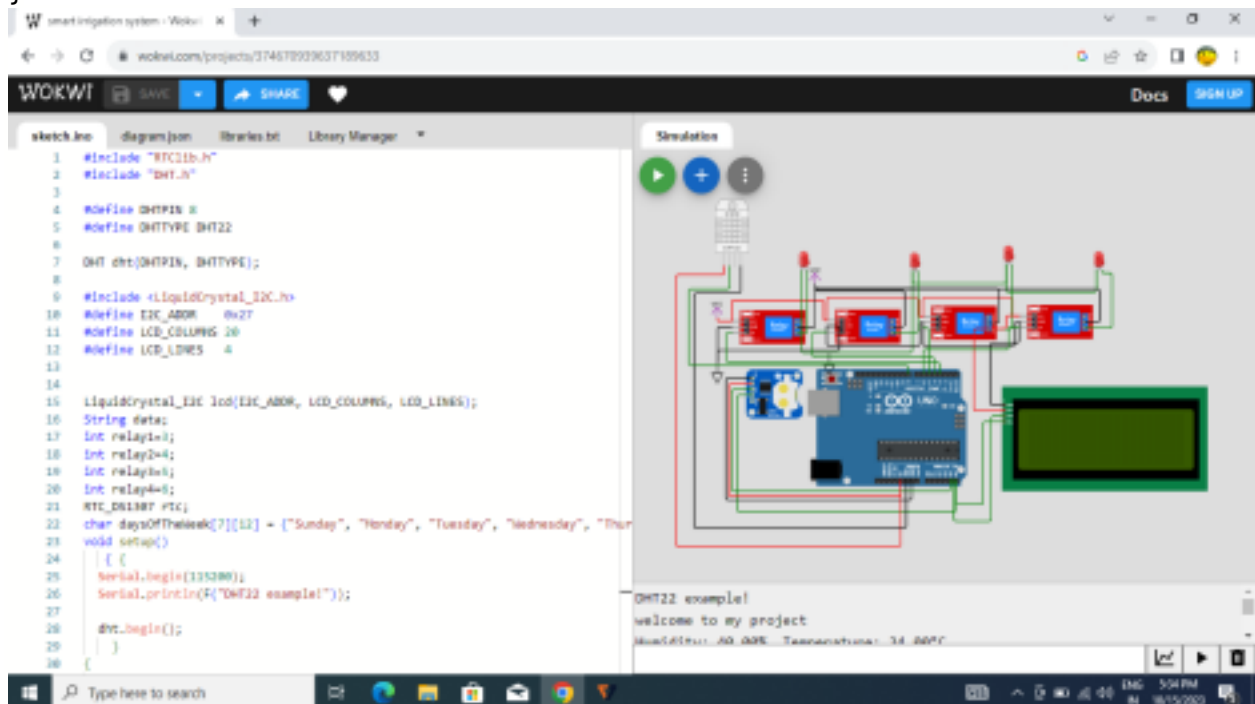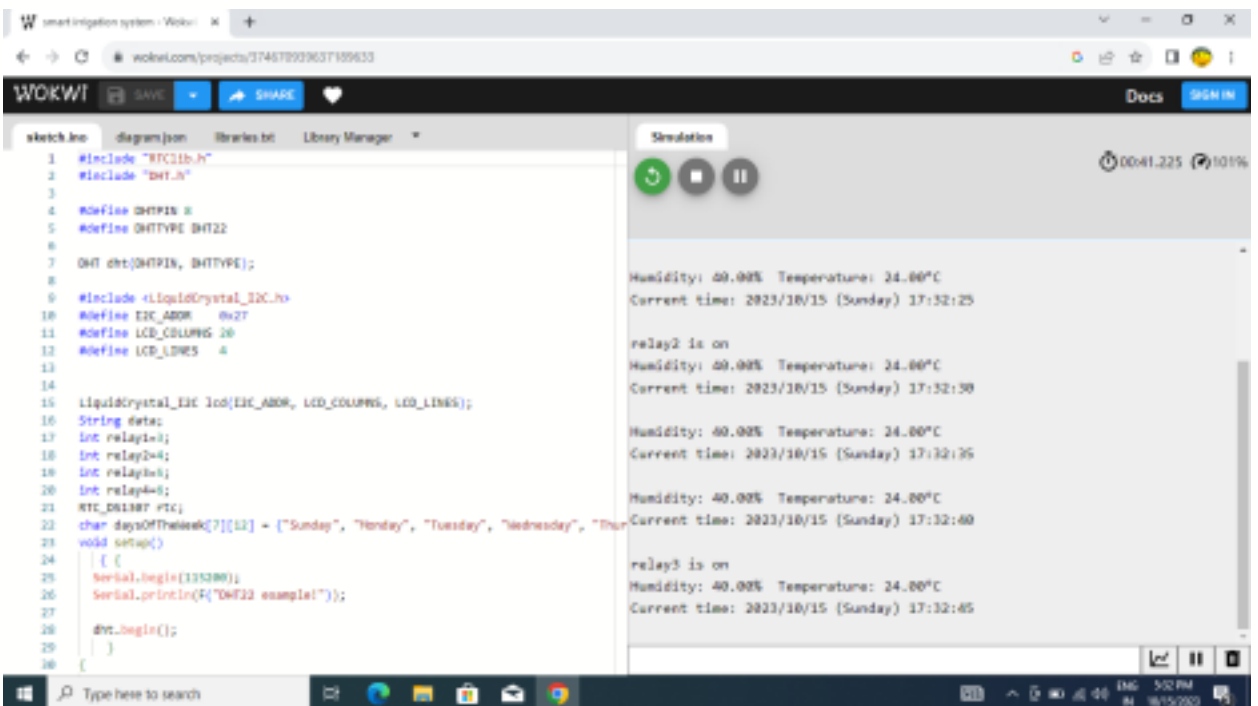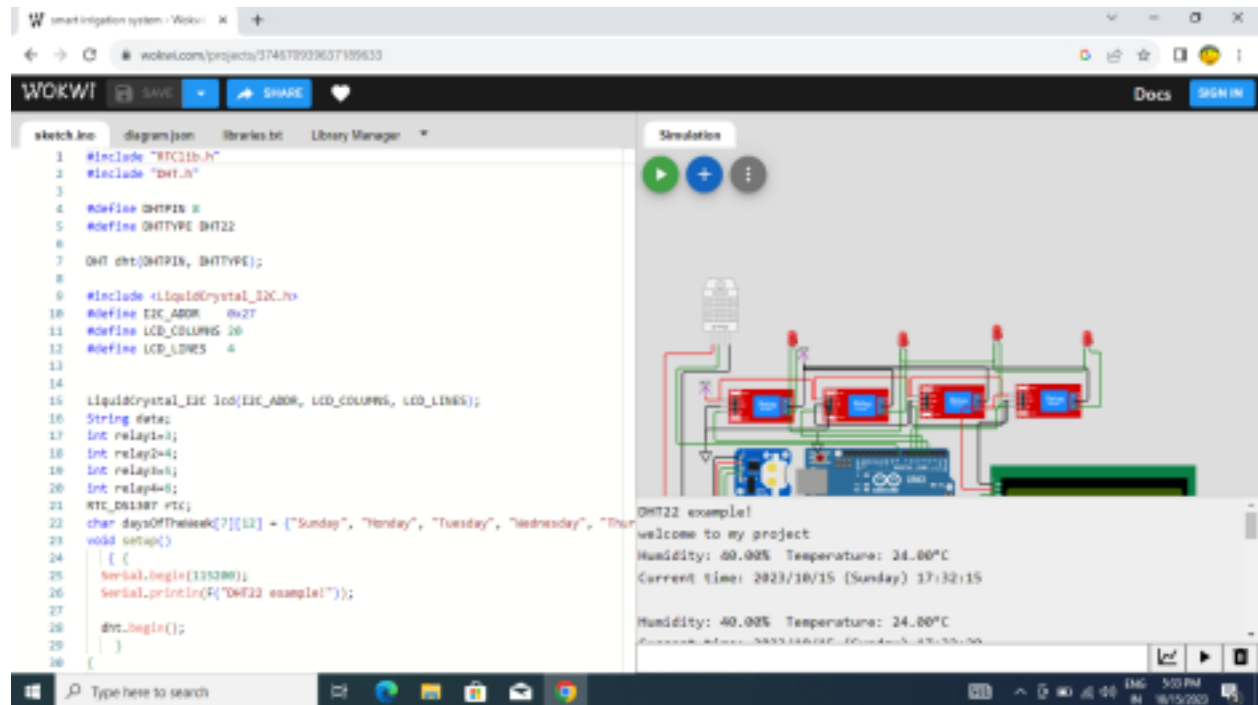
```cpp
}
else{
   lcd.setCursor(0,2);
lcd.print("Relay3:OFF");
digitalWrite(relay3,LOW);
}
 if((now.second()> 50) &&
(now.second()<59)) {
   lcd.setCursor(10,2);
lcd.print("Relay4:ON ");
 Serial.println("relay4 is on");
 digitalWrite(relay4, HIGH);
}
else{
   lcd.setCursor(10,2);
lcd.print("Relay4:OFF");
digitalWrite(relay4,LOW);
}
```

}

COMPONENTS USED

*DHT11 sensor

*Soil Moisture sensor

*Gsm Modem

*ultrasonic sensor