PHASE 3 : DEVELOPMENT PART 1

Start building the IoT-enabled Environmental Monitoring in Parks system.

PROGRAM :

```
#include <LiquidCrystal_I2C.h>

#include <DHT.h>

LiquidCrystal_I2C lcd(0x27, 16, 2);

#define DHTPIN 2

#define DHTTYPE DHT22

#define light 8

DHT dht(DHTPIN, DHTTYPE);

//Variables:

float H; //Humidity value

float T; //Temperature value


//Initialize LCD and DHT22 sensor:

void setup() {

  lcd.init();

  lcd.backlight();

  dht.begin();

  pinMode(light,OUTPUT);

  // Print some text in Serial Monitor
```

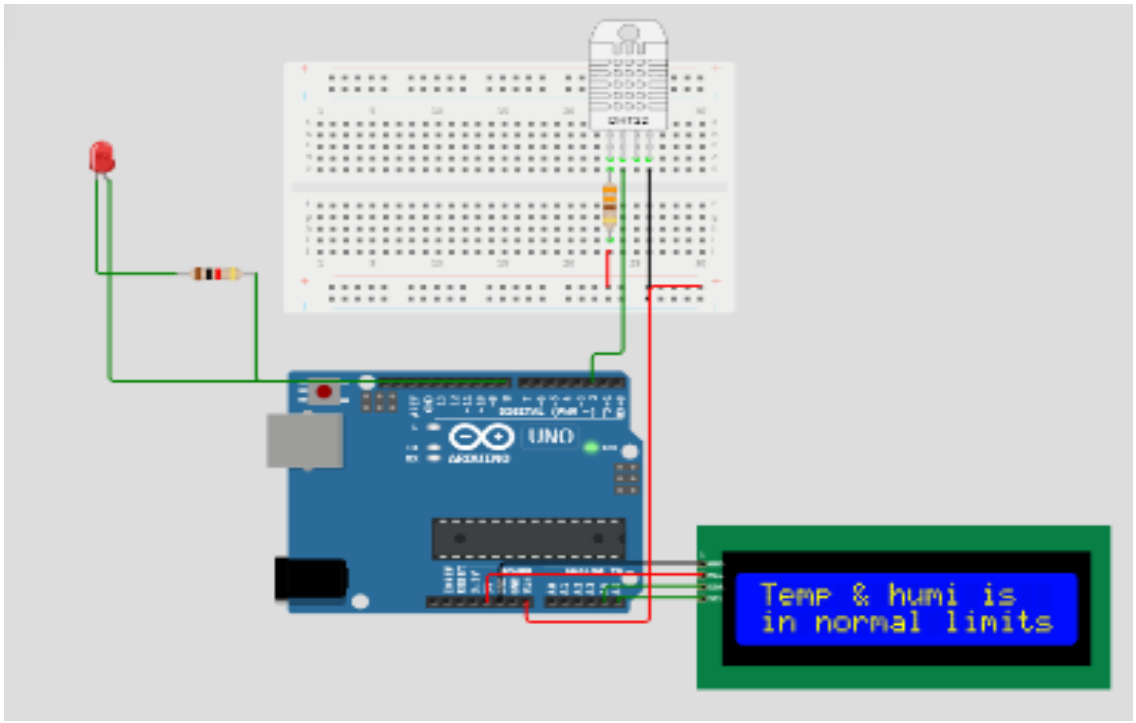
```
  Serial.begin(9600);
  Serial.println("DHT22 sensor with Arduino Uno R3!");
}

void loop() {
  delay(2000);
  // Read data and store it to variables humidity and temperature
  H = dht.readHumidity();
  T = dht.readTemperature();

  // Print temp and humidity values to serial monitor
  Serial.print("Humidity: ");
  Serial.print(H);
  Serial.println(" %; ");
  Serial.print("Temperature: ");
  Serial.print(T);
  Serial.println(" Celsius.\n");

  if (H >= 70.00 && T >= 30.00) {
    digitalWrite(light,HIGH);
    lcd.println("   Too warm!    ");
    lcd.setCursor(0, 1);
```

```
    lcd.println("   Cool down!   ");
    lcd.setCursor(0, 0);
    delay(2000);
    digitalWrite(light,LOW);
  }
else {
    lcd.println("Temp & humi is");
    lcd.setCursor(0, 1);
    lcd.println("in normal limits");
    lcd.setCursor(0, 0);
  }
  if (H < 70.00 && T >= 30.00) {
    lcd.println("Be ware!       ");
    lcd.setCursor(0, 1);
    lcd.println("Temp. too high! ");
    lcd.setCursor(0, 0);
  }
  if (H >= 70.00 && T < 30.00) {
    lcd.println("Be ware!" );
  }
}
```


DHT22
UNO
Temp & humi is
in normal limits