

SPRINT 1 - Connecting Sensors with Arduino

AIM:

Date:	12 th November 2022
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Project Name	Project – Smart Farmer- IoT basedSmartFarmingApplication

To connect the necessary sensors to the arduino board.

MATERIALS USED:

COMPONENTS	DEVICE NAME
1. MCU	ARDUINO UNO R3
2. WATER PUMP	SUBMERSIBLE WATER POOL PUMP
3. SOIL MOISTURE	SOIL MOISTURE SENSOR
4. TEMPERATURE AND HUMIDITY	DHT 22/11 SENSOR

PROGRAM:

```
#include "Arduino.h"

#include "dht.h"

#include "SoilMoisture.h"

#define dht_apin A0 const int sensor_pin = A1; //soil moisture

int pin_out = 9;

dht DHT;

int c=0;

void setup() {
  pinMode(2, INPUT); //Pin 2 as INPUT
  pinMode(3, OUTPUT); //PIN 3 as OUTPUT
  pinMode(9, OUTPUT); //output for pump
}

void loop() {
  if (digitalRead(2) == HIGH)
  { digitalWrite(3, HIGH); // turn the LED/Buzz ON
    delay(10000); // wait for 100 msecond
```

```

digitalWrite(3, LOW); // turn the LED/Buzz OFF

delay(100);

}

Serial.begin(9600);

delay(1000);

DHT.read11(dht_apin); //temprature

float h=DHT.humidity;

float t=DHT.temperature;

delay(5000);

    Serial.begin(9600);

float moisture_percentage;

int sensor_analog;

sensor_analog = analogRead(sensor_pin);

moisture_percentage = ( 100 - ( (sensor_analog/1023.00) * 100 ) );

float m=moisture_percentage;

delay(1000);

if(m=0)

{

mySerial.begin(9600);

delay(15000);

Serial.begin(9600);

delay(1000);

Serial.print("\r");

delay(1000);

Serial.print((String)"update>" + (String)"Temperature=" + t + (String)"Humidity=" + h + (String)"Moisture=" + m);

delay(1000);

}

}

```

CIRCUIT DESIGN:

