SPRINT 1 - Connecting Sensors with Arduino

AIM:

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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)"Temprature="+t+(String)"Humidity="+h+(String)"Moisture="+m);
delay(1000);
}
}
```

CIRCUIT DESIGN: