SPRINT_1

Date	1 November 2022
Team ID	PNT2022TMID08745
Project Name	Smart Farmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

```
#include <Servo.h>

Servo s; int Sensor

= 0; int data = 0;

int motorPin = 9;


void setup()

{

  Serial.begin(9600);   pinMode(A0,INPUT);

//Temperature Sensor    pinMode(A1,INPUT); //Soil

Moisture Sensor   pinMode(10,OUTPUT);

//GREEN light for LED   pinMode(11,OUTPUT);

//BLUE light for LED   pinMode(12,OUTPUT);

//RED light for LED   s.attach(3);

//Servo Motor

  pinMode(motorPin, OUTPUT); //DC motor

 } void

loop(){

  Sensor = analogRead(A1);     //Reads data from Soil Moisture sensor
data = map(Sensor,0, 1023, 0, 100);  //Low analog value indicates HIGH
moisture level and High analog value indicates LOW moisture level

  //data = map(analogValue,fromLOW,fromHIGH,toLOW,toHIGH)

  Serial.print("Soil Moisture value:");

  Serial.println(data);

  //'data = 0' indicates wet and 'data = 100' indicates dry
```

```
double a = analogRead (A0); //Reads data from Temperature sensor
double t = (((a/1024)*5)-0.5)*100;     Serial.print("Temperature value:");
Serial.println(t);


 if (t>40 & t<50){
digitalWrite(10,0);
digitalWrite(11,1);
digitalWrite(12,0);     s.write(90);
  digitalWrite(motorPin, HIGH);
Serial.println("Water Partially Flows");
  }


 else if (t>50){
digitalWrite(10,0);
digitalWrite(11,0);
digitalWrite(12,1);
s.write(180);
  digitalWrite(motorPin, HIGH);
Serial.println("Water Fully Flows");     }


 else if (t>30 & data<30){
digitalWrite(10,1);    digitalWrite(11,1);
digitalWrite(12,0);     s.write(90);
digitalWrite(motorPin, HIGH);
Serial.println("Water Partially Flows");
 }
```
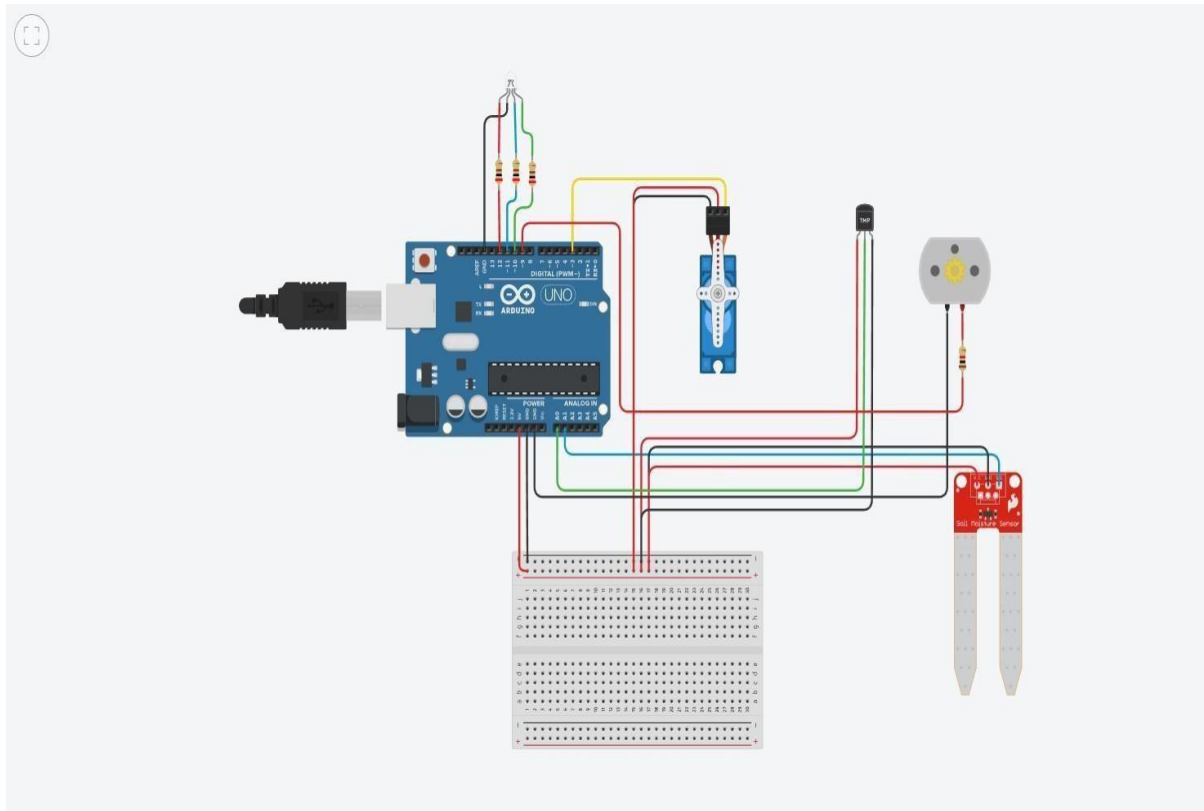
```
  else if (data<50){    digitalWrite(10,0);
digitalWrite(11,1);    digitalWrite(12,1);
s.write(90);    digitalWrite(motorPin,
HIGH);    Serial.println("Water Partially
Flows");
  }



  else{    digitalWrite(10,1);
digitalWrite(11,0);
digitalWrite(12,0);    s.write(0);
digitalWrite(motorPin, LOW);
Serial.println("Water Does Not
Flow");
  }
  Serial.println(" ----------------------------------------------------- ");
delay(1000);
}
```

Circuit Diagram

Components Used

Name	Quantity	Component
UAU	1	Arduino Uno R3
SERVOMS	1	Positional Micro Servo
DLED	1	LED RGB
R2 R3 R4	3	200 Ω Resistor
SENSMS	1	Soil Moisture Sensor
MSmall 6V DC Motor	1	DC Motor
RR	1	1 kΩ Resistor
UTS	1	Temperature Sensor [TMP36]

Schematic View

Title: Smart Farmer Irrigation System
Date: 10/31/2022, 10:17:04 PM   Sheet: 1/1

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