

TEAM ID:PNT2022TMID39922

```
#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");  
    }
```

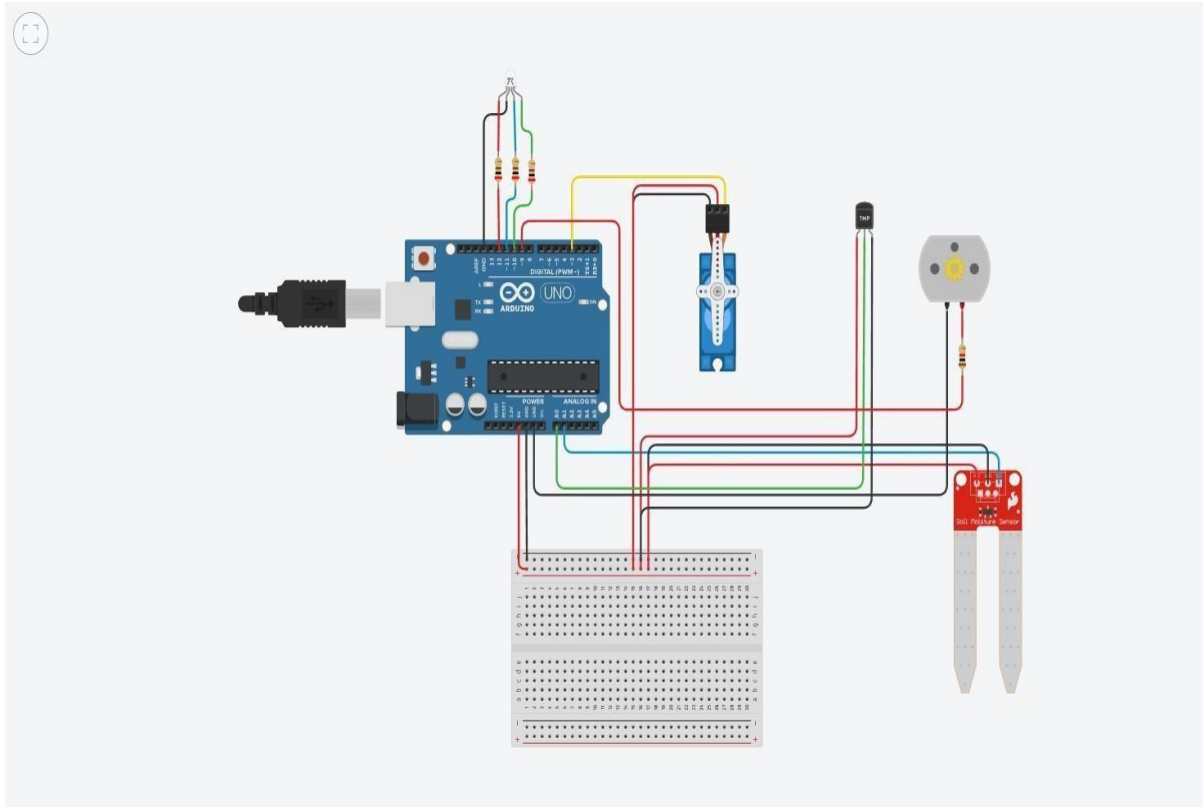
```
    else if  
(t>50){ digitalWrite  
e(10,0);  
digitalWrite(11,0);  
digitalWrite(12,1);  
s.write(180);  
    digitalWrite(motorPin, HIGH);  
Serial.println("Water Fully Flows");   }
```

```
    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 k Ω Resistor
UTS	1	Temperature Sensor [TMP36]

Schematic View

