

**TEAM ID: PNT2022TMID35006**

```
#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");    }
```

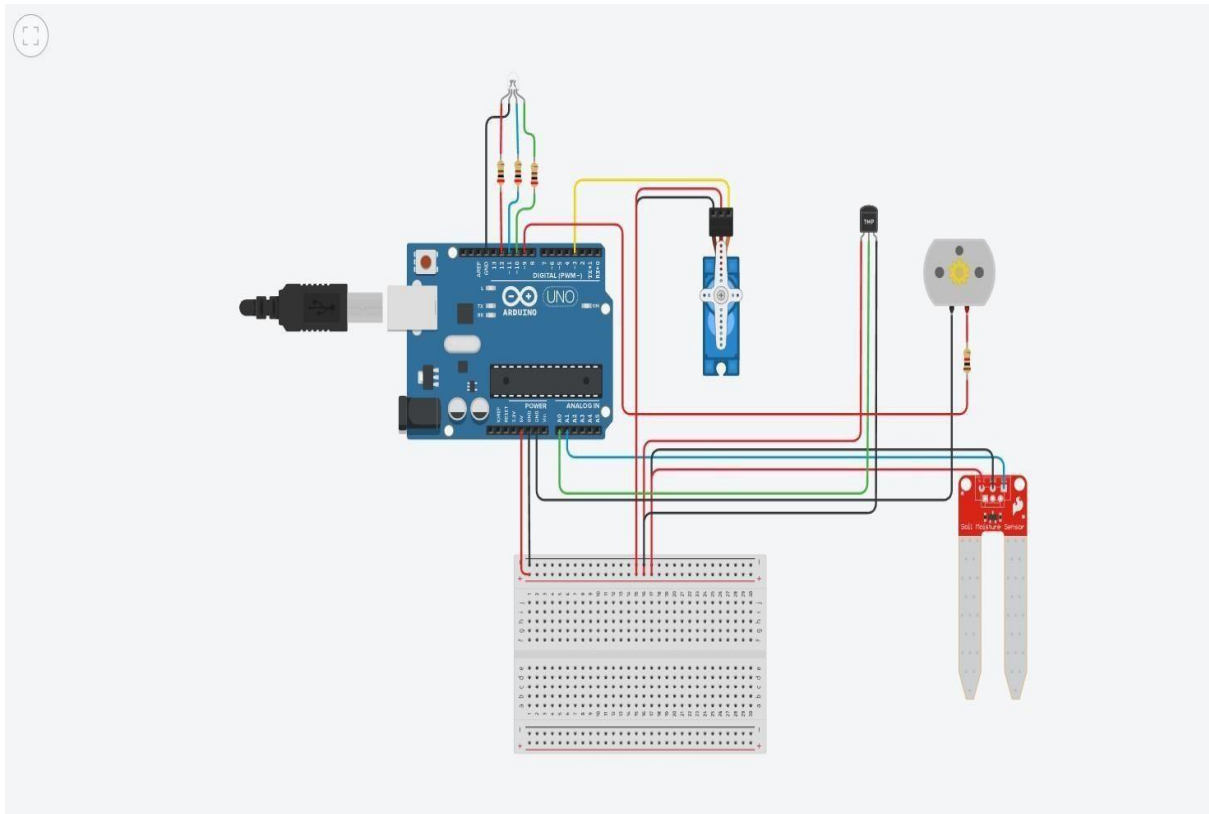
```
    else if (t>30 & data<30){  
digitalWrite(10,1);    digitalWrite(11,1);  
digitalWrite(12,0);    s.write(90);  
digitalWrite(motorPin, HIGH);    Serial.println("Water  
Partially Flows");  
    }
```

```
    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 $\Omega$ Resistor
SENSMS	1	Soil Moisture Sensor
MSmall 6V DC Motor	1	DC Motor
RR	1	1 k $\Omega$ Resistor
UTS	1	Temperature Sensor [TMP36]

# Schematic View

