



Experiment 9

Student Name: Virat Samdarshi

Branch: BE-CSE

Semester: 5th

Subject Name: IOT LAB

UID: 22BCS12648

Section/Group: IOT_627-B

Date of Performance: 16/10/2024

Subject Code: 22CSP-329

1.Aim: To develop an IOT-based system to optimize agricultural practices

2.Objective: The goal of this project is to assemble and control various actuators (LED, motor, and buzzer) using an Arduino Uno. This project will involve connecting the components to the Arduino and writing a program to control their behavior, such as blinking the LED, turning the motor on and off, and sounding the buzzer.

3.Input/Equipment Used:

- 1.Arduino Uno board
- 2.Soil moisture sensor
- 3.Breadboard
- 4.Jumper wires
- 5.USB cable for Arduino
- 6.Computer with Arduino IDE installed

4. Procedure:

- Setup the Arduino and Sensor
- Write the Arduino Code
- Upload the Code: Connect the Arduino to your computer using the USB cable and upload the code to the Arduino board.
- Open Serial Monitor: After uploading the code, open the Serial Monitor from the Arduino IDE (Tools > Serial Monitor) to see the sensor readings.
- Connect the VCC pin of the soil moisture sensor to the 5V pin on the Arduino.
- Connect the GND pin of the soil moisture sensor to a GND pin on the Arduino.
- Connect the A0 pin of the soil moisture sensor to an analog input pin(e.g., A0)

5. Code:

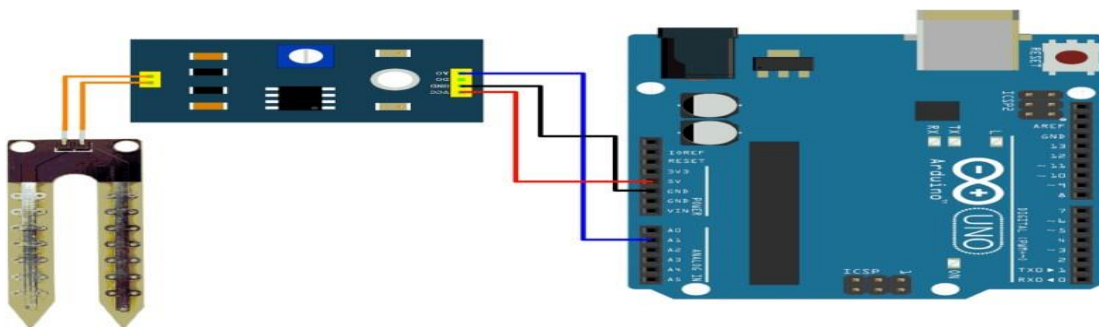
```
// Define the pin connected to the soil moisture sensor

const int sensorPin = A0;

void setup()
{
  Serial.begin(9600);
}

void loop()
{
  sensorValue = analogRead(sensorPin);
  Serial.print("Soil Moisture Value: ");
  Serial.println(sensorValue);
  delay(1000);
}
```

6.Result:



7. Learning Outcomes:

- 1.Learned about Soil Moisture Sensors.
- 2.Learned about automated irrigation system.
- 3.Learned about sensor readings.
4. Learned about soil moisture levels.