

```
#include <Servo.h>
```

```
const int soilMoisturePin = A0;  
const int potentiometerPin = A1;  
const int pumpPin = 9;  
const int buzzerPin = 8;  
const int ledPin = 7;  
Servo servoMotor;
```

```
int threshold = 300;  
int soilMoisture = 0;  
int potValue = 0;
```

```
void setup() {  
  pinMode(soilMoisturePin, INPUT);  
  pinMode(potentiometerPin, INPUT);  
  pinMode(pumpPin, OUTPUT);  
  pinMode(buzzerPin, OUTPUT);  
  pinMode(ledPin, OUTPUT);  
  servoMotor.attach(10);  
  
  servoMotor.write(0);  
  digitalWrite(pumpPin, LOW);  
  digitalWrite(buzzerPin, LOW);  
  digitalWrite(ledPin, LOW);  
}
```

```
void loop() {  
  soilMoisture = analogRead(soilMoisturePin);  
  potValue = analogRead(potentiometerPin);  
  
  threshold = map(potValue, 0, 1023, 100, 700);  
  
  if (soilMoisture < threshold) {  
    digitalWrite(pumpPin, HIGH);
```

```

servoMotor.write(90);
digitalWrite(buzzerPin, HIGH);
digitalWrite(ledPin, HIGH);
delay(100);
digitalWrite(buzzerPin, LOW);
digitalWrite(ledPin, LOW);
delay(4900);
digitalWrite(pumpPin, LOW);
servoMotor.write(0);
digitalWrite(buzzerPin, HIGH);
digitalWrite(ledPin, HIGH);
delay(100);
digitalWrite(buzzerPin, LOW);
digitalWrite(ledPin, LOW);
}

delay(1000);
}

```

Explanantion :

Added Components :

Buzzer (buzzerPin = 8):

- Connected to digital pin 8, the buzzer provides audible feedback during specific system events, such as when watering starts and stops.

• LED (ledPin = 7):

- Connected to digital pin 7, the LED provides visual feedback to indicate the status of the system, particularly when watering operations commence and conclude.

Buzzer: Provides auditory signals to notify users of significant events, such as system activation and deactivation.

- **LED:** Offers visual confirmation of system actions, enhancing user awareness of current operational states like watering initiation and completion.