

# Automated Plant Monitoring System

**Project Link:** <https://www.tinkercad.com/things/ceAi1nKXu0K-automated-plant-monitoring-system/editel?sharecode=rgwVsS1XrUjyFUtUctixGo42I3wfsaxWC43PrMFEEl4>

## **Code:**

```
#include <LiquidCrystal.h>
```

```
const int buzzer = 8;
```

```
int echopin = 10;
```

```
int trigpin = 9;
```

```
int mesafe;
```

```
int sure;
```

```
const int LM35 = A0;
```

```
const int motor = 13;
```

```
const int LedRed = 12;
```

```
const int LedGreen = 11;
```

```
LiquidCrystal lcd(2, 3, 4, 5, 6, 7);
```

```
void setup() {
```

```
  Serial.begin(9600);
```

```
  lcd.begin(16, 2);
```

```
lcd.print("Automated Plant");  
lcd.setCursor(0,1);  
lcd.print("Monitoring System!");  
pinMode(motor, OUTPUT);  
pinMode(LedRed, OUTPUT);  
pinMode(LedGreen, OUTPUT);  
delay(2000);  
lcd.clear();  
lcd.print("Temp= ");  
lcd.setCursor(0,1);  
lcd.print("WaterPump= ");  
pinMode(buzzer, OUTPUT);  
pinMode(trigpin, OUTPUT);  
pinMode(echopin, INPUT);  
}
```

```
void loop() {
```

```
    int value = analogRead(LM35);  
    float Temperature = value * 500.0 / 1023.0;  
    lcd.setCursor(6,0);  
    lcd.print(Temperature);  
    lcd.setCursor(11,1);
```

```
if (Temperature > 30){  
    digitalWrite(motor, HIGH);  
    digitalWrite(LedRed, HIGH);  
    digitalWrite(LedGreen, LOW);  
    lcd.print("ON ");  
}  
else {  
    digitalWrite(motor, LOW);  
    digitalWrite(LedRed, LOW);  
    digitalWrite(LedGreen, HIGH);  
    lcd.print("OFF");  
}  
delay(1000);
```

```
digitalWrite(trigpin,LOW);  
delayMicroseconds(2);  
digitalWrite(trigpin,HIGH);  
delayMicroseconds(10);  
digitalWrite(trigpin,LOW);  
sure = pulseIn(echopin,HIGH);  
mesafe = (sure/2)/29.0;
```

```
if(mesafe <= 15)  
{  
    digitalWrite(buzzer,HIGH);
```

```
    delay(250);  
    digitalWrite(buzzer,LOW);  
    delay(125);  
}
```

```
else if(mesafe <= 20)  
{  
    digitalWrite(buzzer,HIGH);  
    delay(500);  
    digitalWrite(buzzer,LOW);  
    delay(250);  
}
```

```
else if(mesafe <= 30)  
{  
    digitalWrite(buzzer,HIGH);  
    delay(1000);  
    digitalWrite(buzzer,LOW);  
    delay(1000);  
}
```

```
else  
{  
    digitalWrite(buzzer,LOW);  
}  
    delay(500);  
}
```

## Circuit:

