Automatic Rain Alarm Detector

Raindrop sensor

- **The Raindrop sensor module** is used for rain detection. It is also for measuring rainfall intensity.

- The module includes a rain board and a control board that are separate for more convenience. It has a power indicator LED and an adjustable sensitivity though a potentiometer.

Working of project

- In this project basically raindrop sensor senses **rain** when comes ,buzzer will create alarm as **rain alarm detector**.

- A **Raindrop sensor** or **rain** switch is a switching device activated by rainfall.

- As rain drops are collected on the circuit board, they create paths of parallel resistance that are measured via the op amp.

Components required

- Arduino Mega
- Raindrop sensor
- Buzzer
- LED
- Breadboard
- Jumper wires

Connection Diagram
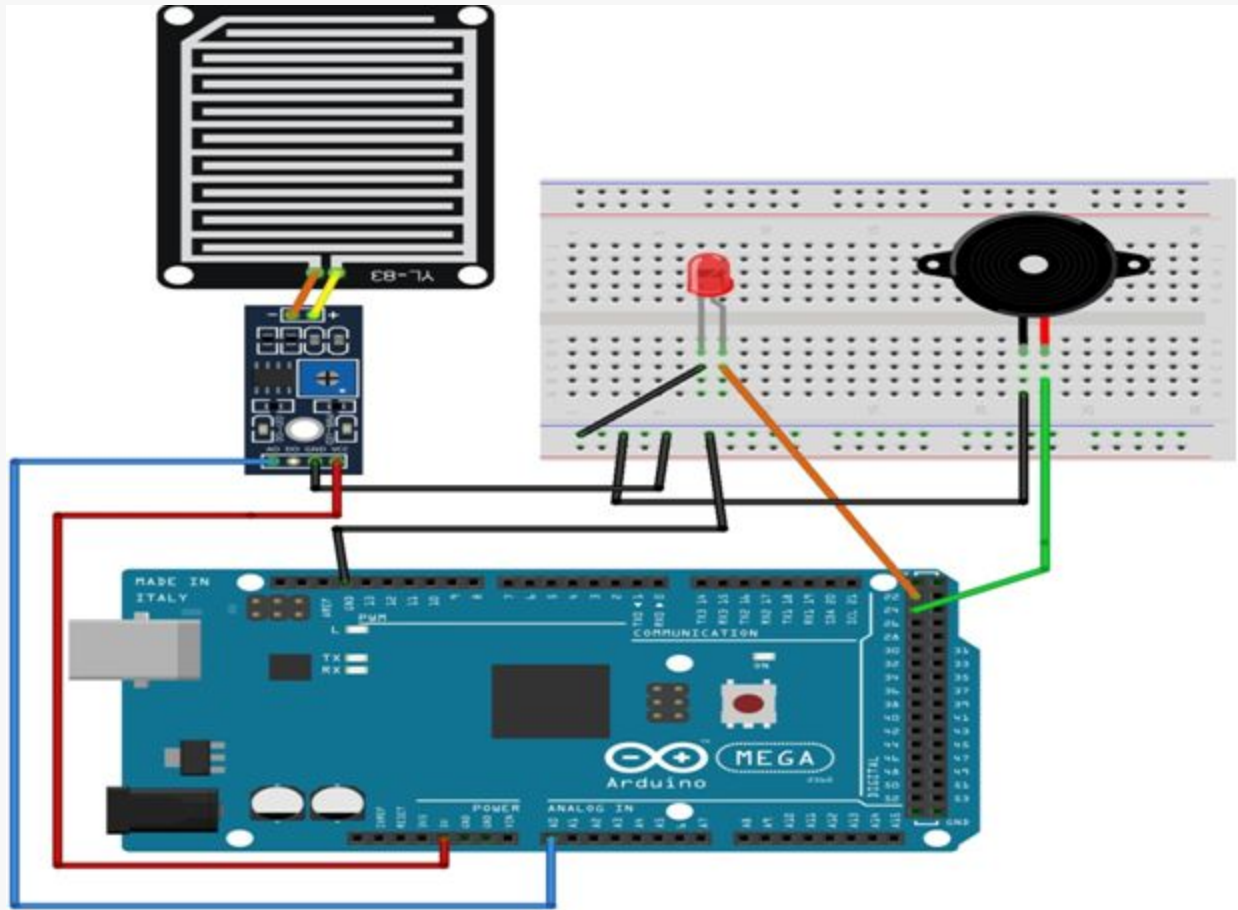
Connections

1. Connect Ao pin of raindrop sensor with Ao pin of Arduino.
2. Connect Vcc of sensor with +5V of Arduino.
3. Connect GND of sensor with GND Arduino.
4. Connect buzzer's positive pin with 24 pin of Arduino and negative pin with GND pin of Arduino.
5. Connect LED's positive with 22 pin of Arduino and negative pin with GND pin of Arduino.

Code

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Automatic_rain_detector_alarm

```
// Viral Science
// Rain Detection Module

int rainsense= A0; // analog sensor input pin 0
int buzzerout= 24; // digital output pin 10 - buzzer output
int countval= 0; // counter value starting from 0 and goes up by 1 every second
int ledout= 22; // digital output pin 11 - led output

void setup(){
    Serial.begin(9600);
    pinMode(buzzerout, OUTPUT);
    pinMode(ledout, OUTPUT);
    pinMode(rainsense, INPUT);
}
void loop(){
    int rainSenseReading = analogRead(rainsense);
    Serial.println(rainSenseReading); // serial monitoring message
    delay(250);// rain sensing value from 0 to 1023.
    // from heavy rain - no rain.
    if (countval >= 5){
        Serial.print("Heavy rain");
        digitalWrite(buzzerout, HIGH);  //raise an alert after x time
        digitalWrite(ledout, HIGH);  // led glow
    }
    //raining for long duration rise buzzer sound
    // there is no rain then reset the counter value
```

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Automatic_rain_detector_alarm

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    }
    //raining for long duration rise buzzer sound
    // there is no rain then reset the counter value
    if (rainSenseReading <500){
        countval++; // increment count value
    }
    else if (rainSenseReading >500) { // if not raining
        digitalWrite(buzzerout, LOW); // turn off buzzer
        digitalWrite(ledout, LOW); // turn off led
        countval = 0; // reset count to 0
    }
    delay(1000);
}
```

Project Link : https://youtu.be/0BnZ33z5Ztl