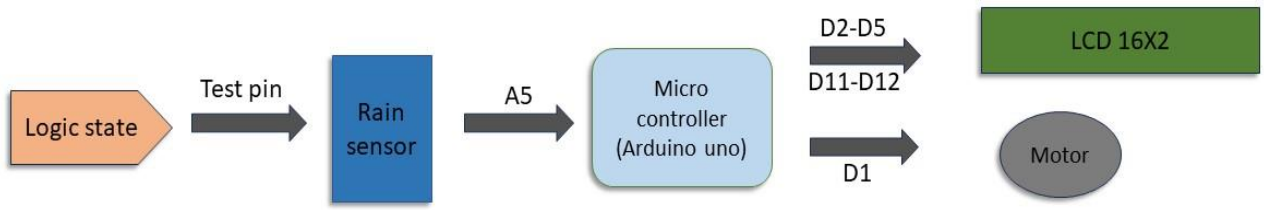
AUTOMATIC RAIN SENSOR

• **Description**: An automatic rain sensor system designed in Proteus, integrating an LCD and a motor, aims to detect rainfall and display the status on an LCD screen while activating a motor to simulate actions such as closing windows or activating wipers in a real-world scenario. This system combines sensor technology, display interfaces, and actuator control to create a functional simulation.

• **Block Diagram:**



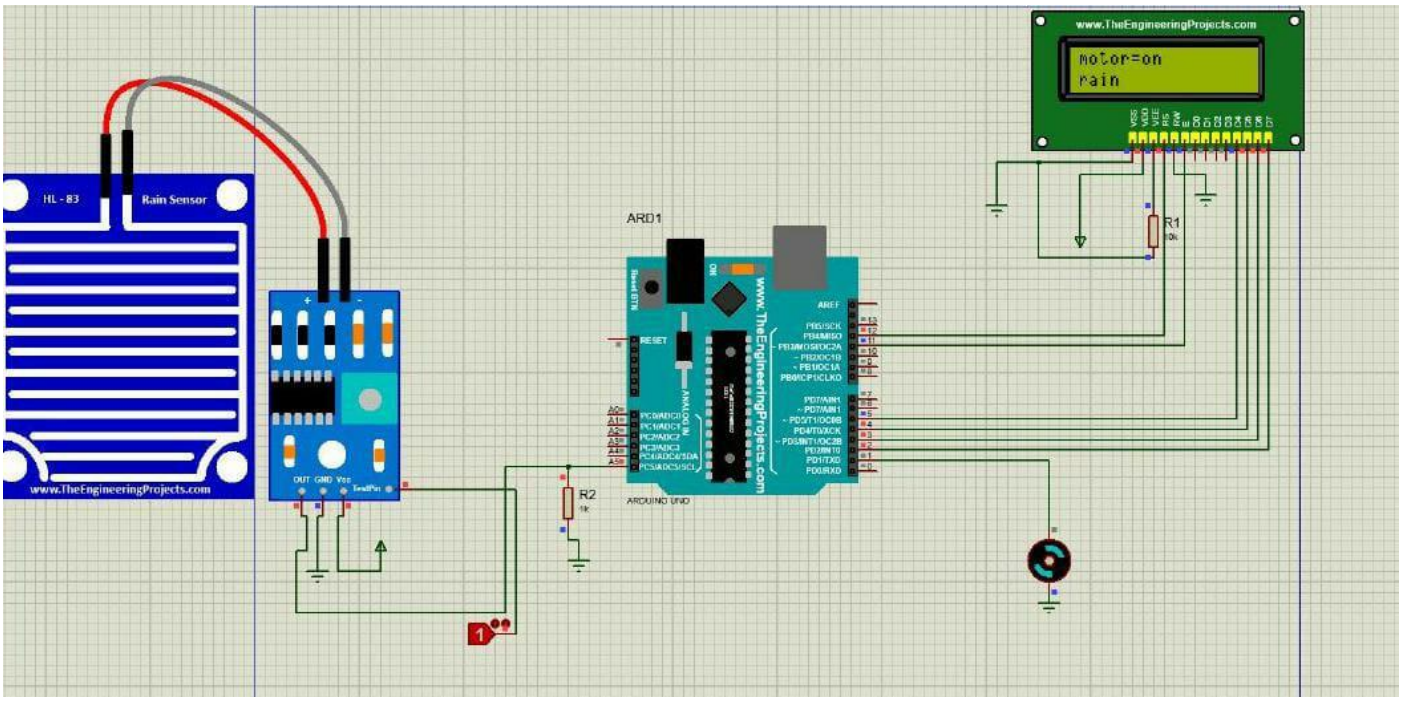
• Inputs and Outputs:

S.No	Description	Name	Type	Data Direction	Specification	Remarks
1	Rain Sensor	Test Pin	INP	D1	Digital	Active High
2	LCD RST	RS	OUT	DO	Digital	Active High
3	LCD EN	EN	OUT	DO	Digital	Active High
4	LCD DATA PIN	D4	OUT	DO	Digital	Active High
5	LCD DATA PIN	D5	OUT	DO	Digital	Active High
6	LCD DATA PIN	D6	OUT	DO	Digital	Active High
7	LCD DATA PIN	D7	OUT	DO	Digital	Active High
8	MOTOR PIN	D1	OUT	DO	Digital	Active High

• Source Code:

```
#include <LiquidCrystal.h>

 const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);// LCD pins: RS, E, D4, D5, D6, D7
int rainSensorPin = A5;
int motorPin = 1;
int motorStatus = LOW;

void setup() {
  lcd.begin(16, 2); // Initialize the LCD
  pinMode(rainSensorPin, INPUT);
  pinMode(motorPin, OUTPUT);
}

void loop() {
  int rainStatus = digitalRead(rainSensorPin);

  if (rainStatus == HIGH) {
    motorStatus = HIGH;
    digitalWrite(motorPin, motorStatus);
    lcd.clear();
    lcd.print("motor=on");
    lcd.setCursor(0,1);
    lcd.print("rain");
```

• Schematic:


HL - 83
Rain Sensor
www.TheEngineeringProjects.com
OUT GND Vcc
www.TheEngineeringProjects.com
motor=on
rain
ARD1
R1
R2
ARDUINO UNO