VOLTORB JULY 2022

AUTOMATED WIPER CONTROL FOR CAR

PROBLEM STATEMENT

You are an engineer who lives in Bengaluru. You love going on a long drive during weekends. It's been a week and the severe downpour hasn't reduced in the province. Bengaluru's weather rainfall volume keeps changing, you have to turn on-off and change speed of wipers, it just ruins your driving experience . Being an engineer, you are someone who loves tinkering and building things on your own.

Create an automated wiper system that has following functionalities:

- Turns on wiper whenever it rains
- Wiper's sweep speed should be adjusted automatically based on rain volume.

Instructions:

- Use of microcontroller is allowed.
- Additional functionality and creativity attracts more points.
- Both physical and simulation circuits are accepted.

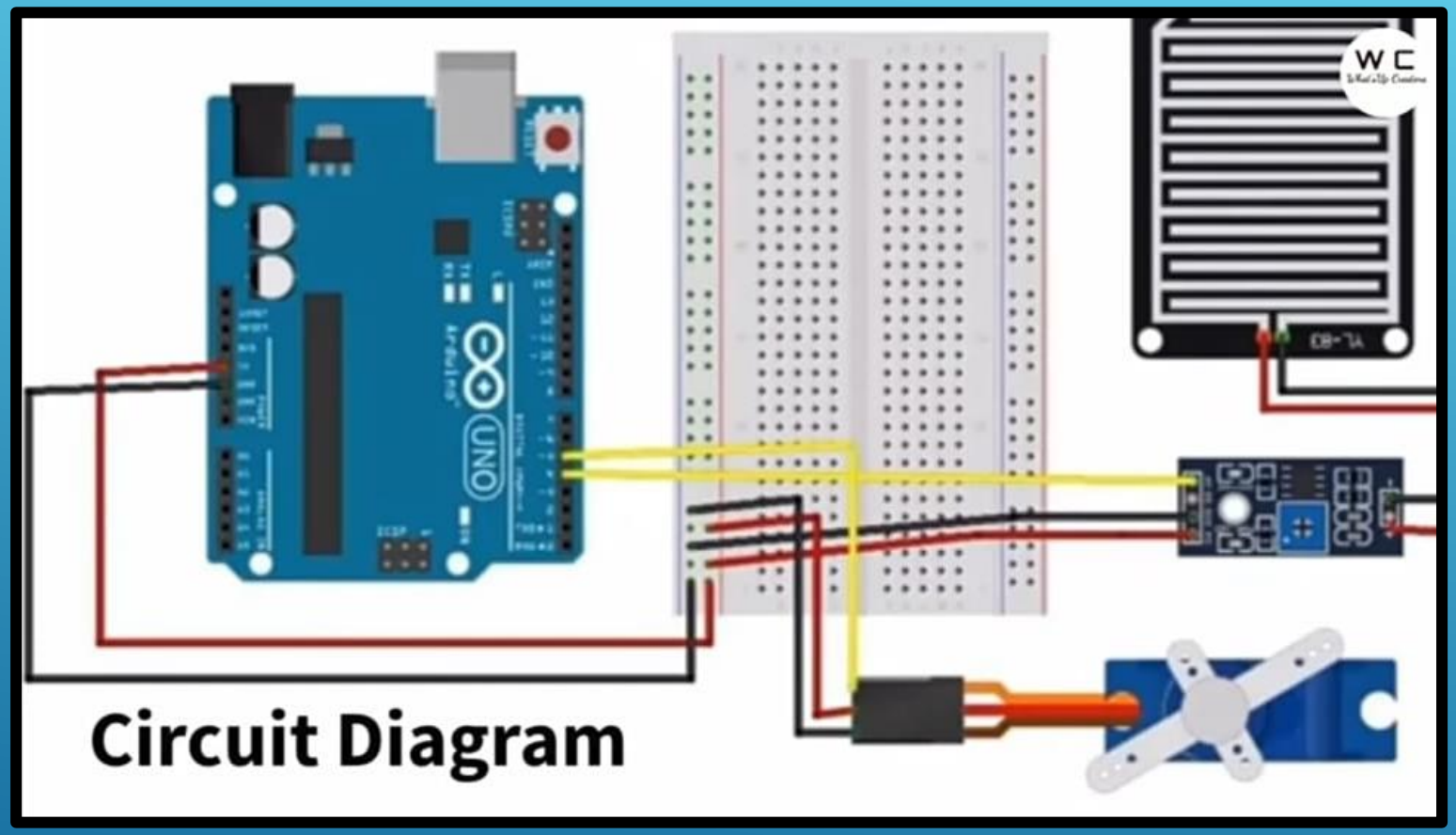
COMPONENTS REQUIRED

1. Rain sensor
2. Arduino
3. Servo motor
4. Breadboard and connecting wires

PROCEDURE

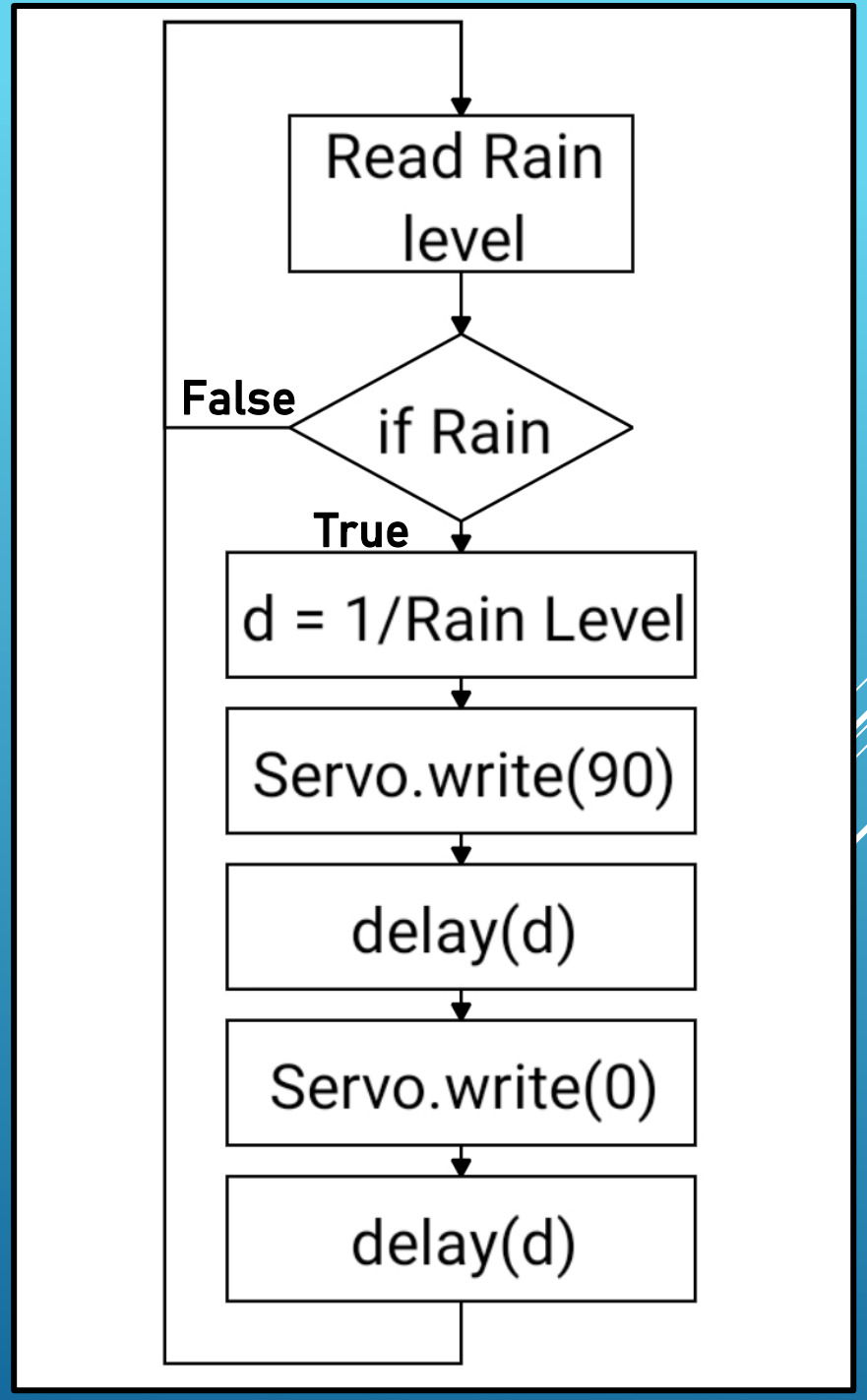
1. Connect Arduino to Servo and rain senor via jumpers or breadboard
2. Connect a DC 5V supply to Arduino, sensor and servo
3. Sensor outputs a analog value which is proportional to rain intensity

CIRCUIT DIAGRAM



LOGIC FLOW CHART

- Read analog value from Rain sensor
- If its greater than zero
  - Inverse the value and store in a variable d
  - Turn servo to 90 degrees
  - Delay for d milli-seconds
  - Turn servo to 90 degrees
  - Delay for d milli-seconds



THANK YOU