

WATER LEVEL INDICATOR

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THINK ABOUT IT

- What are water level indicators ?
- How do they work ?
- Where are they used ?
- What are the different components used ?

Objective

This project is about making a simple and affordable system that can tell us how much water is in a tank or a container. We want to create it using basic things like resistors, transistors, LEDs (those small colourful lights), a battery, a buzzer (for sound), and electrodes that can detect water levels.

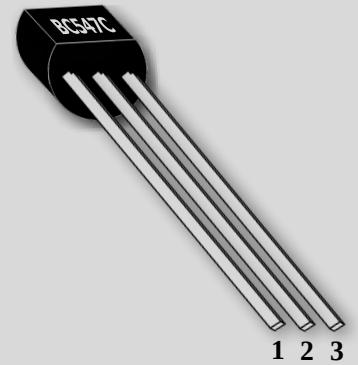


Here's what we aim to do:

- 1. Detect Water: Make sure the system can accurately figure out how much water is in the container by using special sensors placed at different heights.**
- 2. Show Water Levels: Use the colorful lights (LEDs) to show how much water is in the container. Each light will represent a different level.**
- 3. Make a Sound if Needed: Optionally, include a buzzer that makes a sound when the water reaches a really high or really low level.**
- 4. Keep it Simple: Make the system easy to build and use so that anyone who wants to try it can do so without much trouble.**

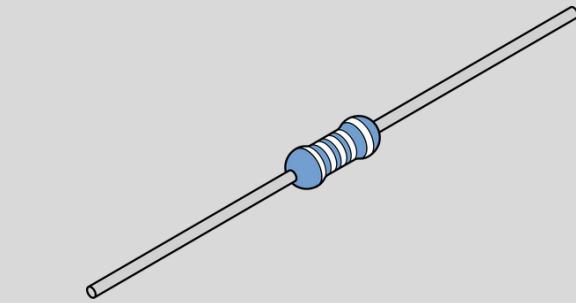


Circuit Elements



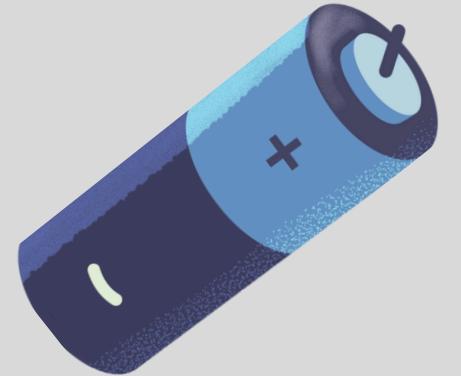
Transistor

Transistor is a miniature device that is used to control or regulate the flow of electronic signals.



Resistor

A resistor is used for either limiting or regulating the flow of electric current in electrical circuits.



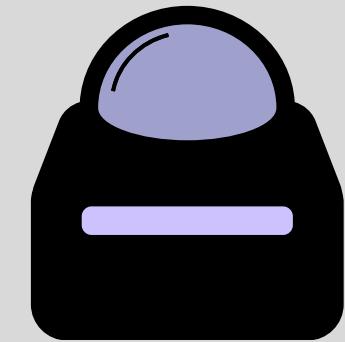
Voltage source

A voltage source is a two-terminal device which can maintain a fixed voltage.



LEDs

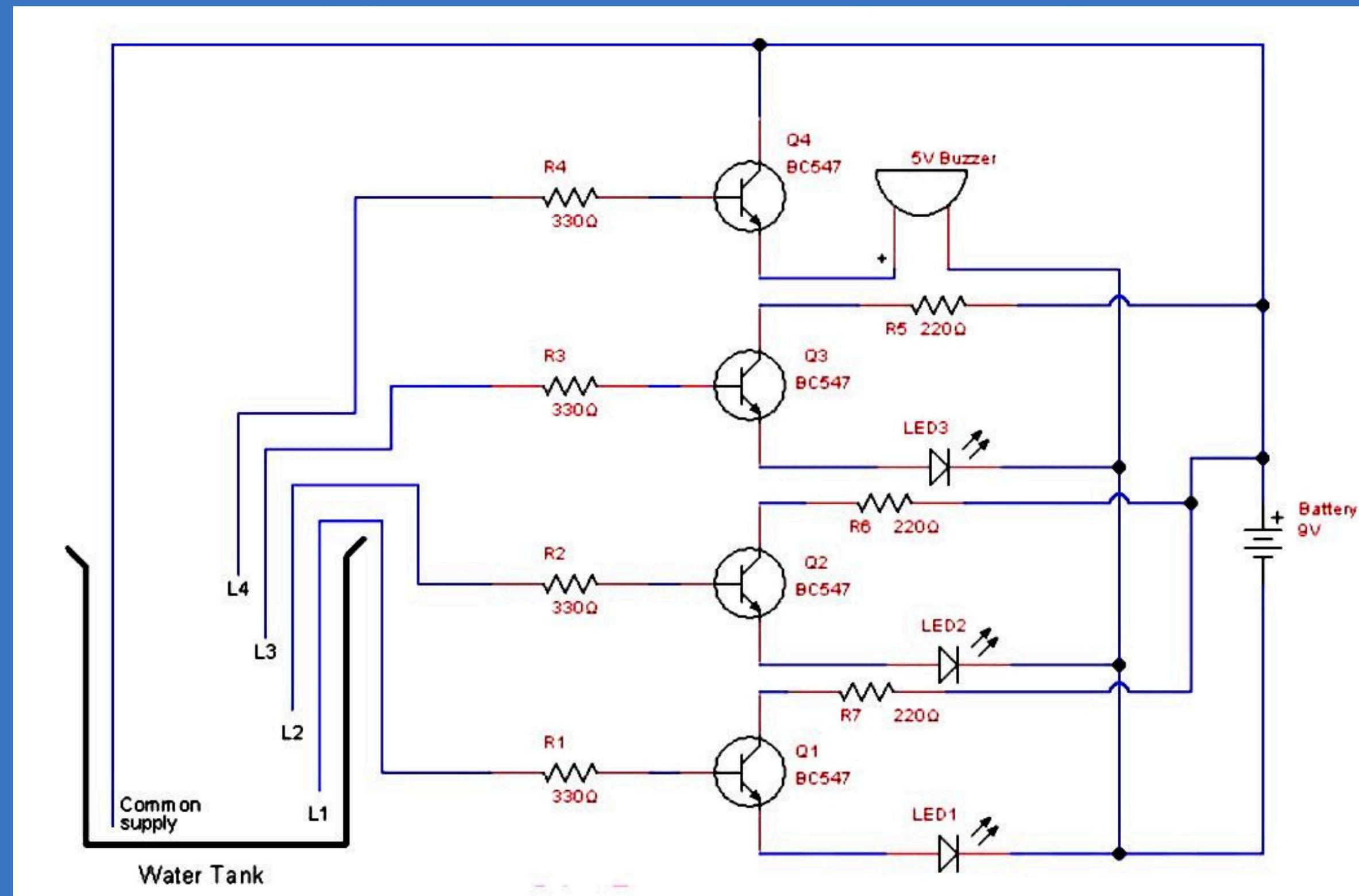
It is a device that emits light when an electric current passes through it.



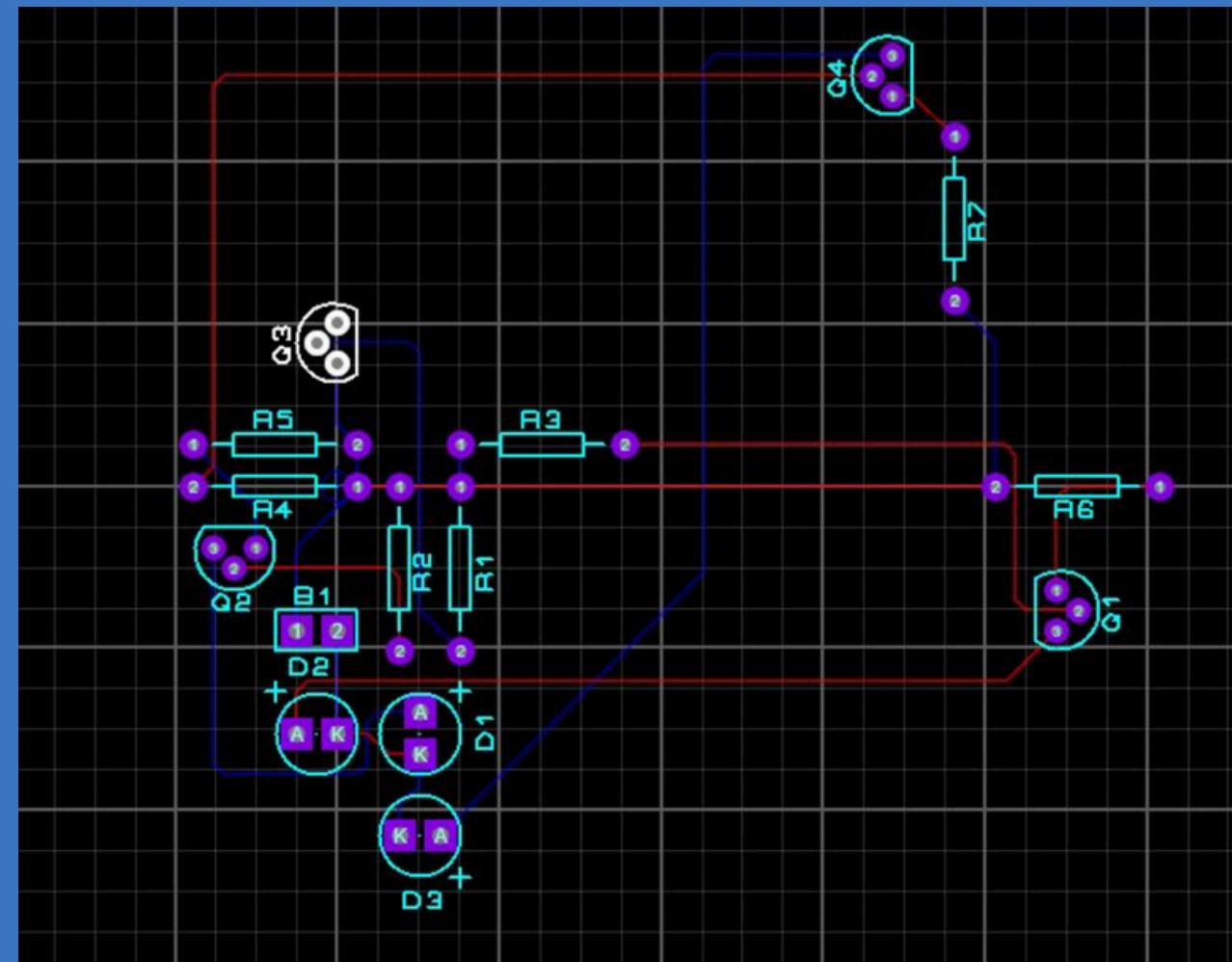
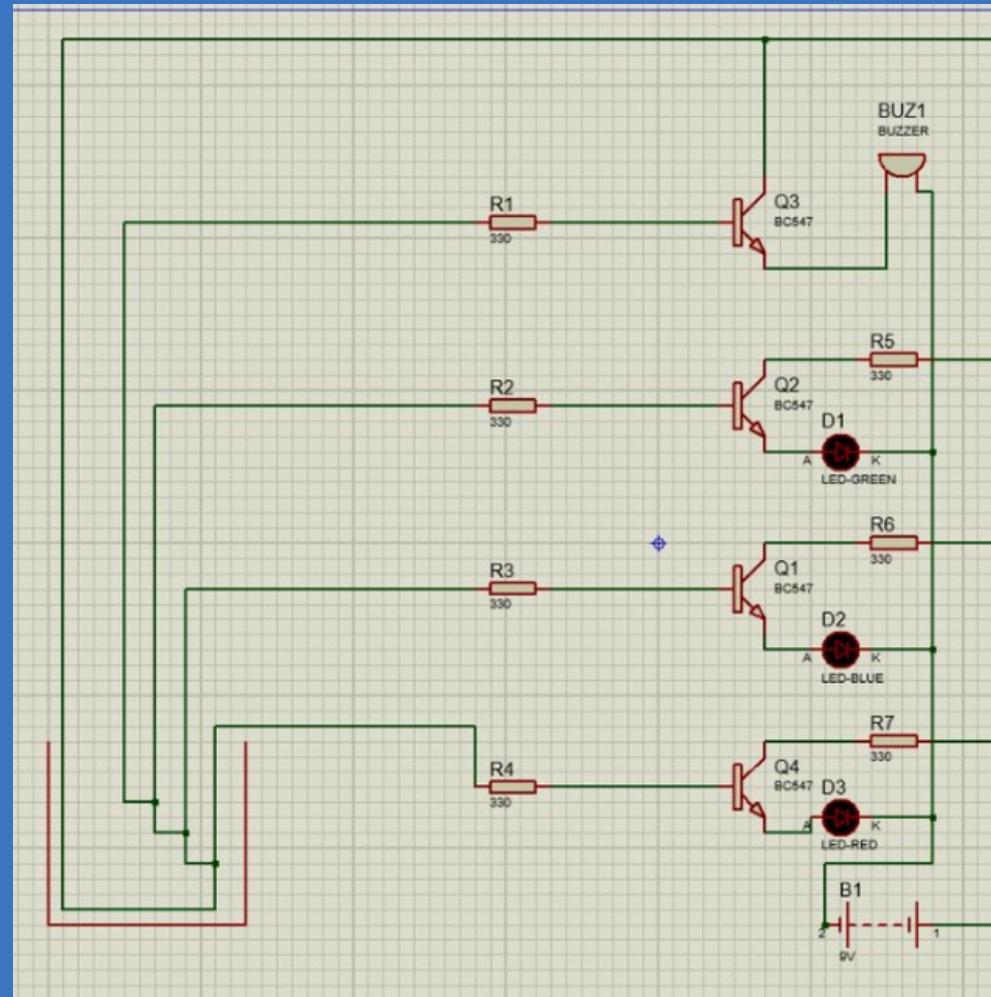
Buzzer

It is an electric signaling device that makes a buzzing sound

Circuit Diagram



PCB Layout

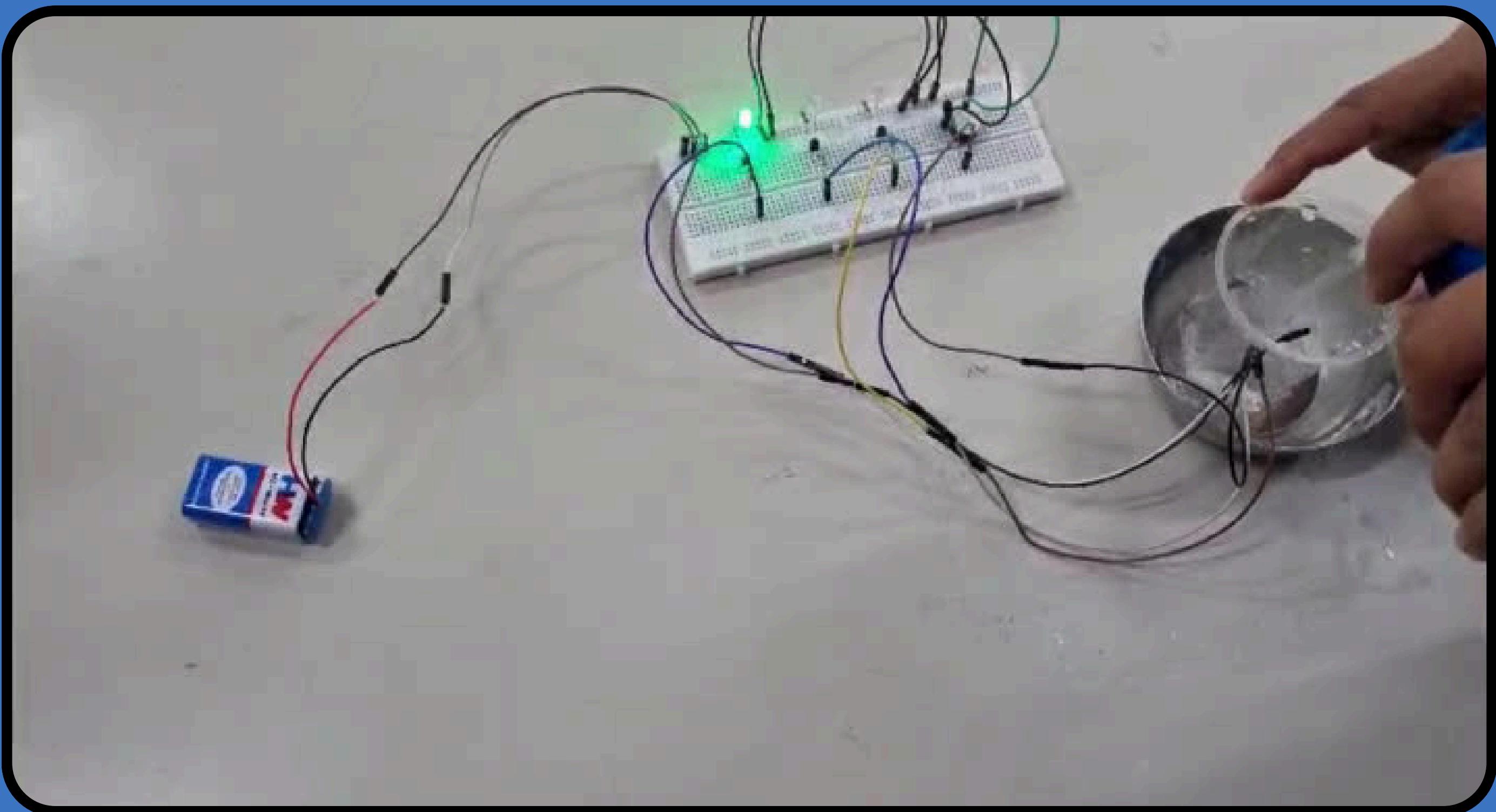


Working

- 1. Sensor Setup:** We placed water sensors at different levels inside the container.
- 2. Transistors' Role:** When water touches a sensor, it triggers a small switch called a transistor. When they receive a signal from the sensors (due to water contact), they let electricity flow to the corresponding light (LED).
- 3. Switching Lights:** When water touches a sensor, it turns on a specific light (LED) indicating that level.
- 4. Visual Indication:** Each lit LED shows the water level, making it easy to see how much water is in the container.
- 5. Optional Buzzer:** We also added a buzzer for an extra sound alert if the water reaches a critical level.
- 6. Observation:** By looking at the lights and listening to the buzzer (if included), we can know the water level and its safety.



Working Video



Conclusion

The water level indicator project effectively achieves its purpose by offering a simple and efficient means to monitor water levels. This system can be applied in diverse settings such as water tanks, reservoirs, or automated irrigation systems to facilitate better water management practices. Moreover, it serves as an educational tool, aiding enthusiasts in understanding sensor interfacing and basic circuit design.



THANK
YOU