# **Description**

This Arduino project uses a button to toggle an LED on and off. The button press is detected using a digital input, and the LED state is controlled based on an internal counter. The system ensures debouncing using a delay to prevent unintended quick button presses.

**Components Required**

* LED (Red)
* Resistor (330Ω for LED)
* Push Button
* Resistor (10kΩ for pull-down)
* Breadboard & jumper wires

**Code Explanation**

* count keeps track of button presses.
* checker ensures state changes happen only once per press.
* The loop continuously reads the button state and updates count.
* When the button is pressed (buttonRead == 0), checker becomes true, and count increments.
* The LED toggles based on whether count is odd (ON) or even (OFF).
* A delay(dt) prevents unintended multiple rapid button presses.

**How It Works**

1. Pressing the button toggles the LED between ON and OFF.
2. Each press increments the count.
3. If count is odd → LED turns ON. If count is even → LED turns OFF.
4. The button must be released before another press is registered.

**Usage**

1. Upload the provided code to your Arduino board.
2. Connect the components as described.
3. Press the button to toggle the LED.