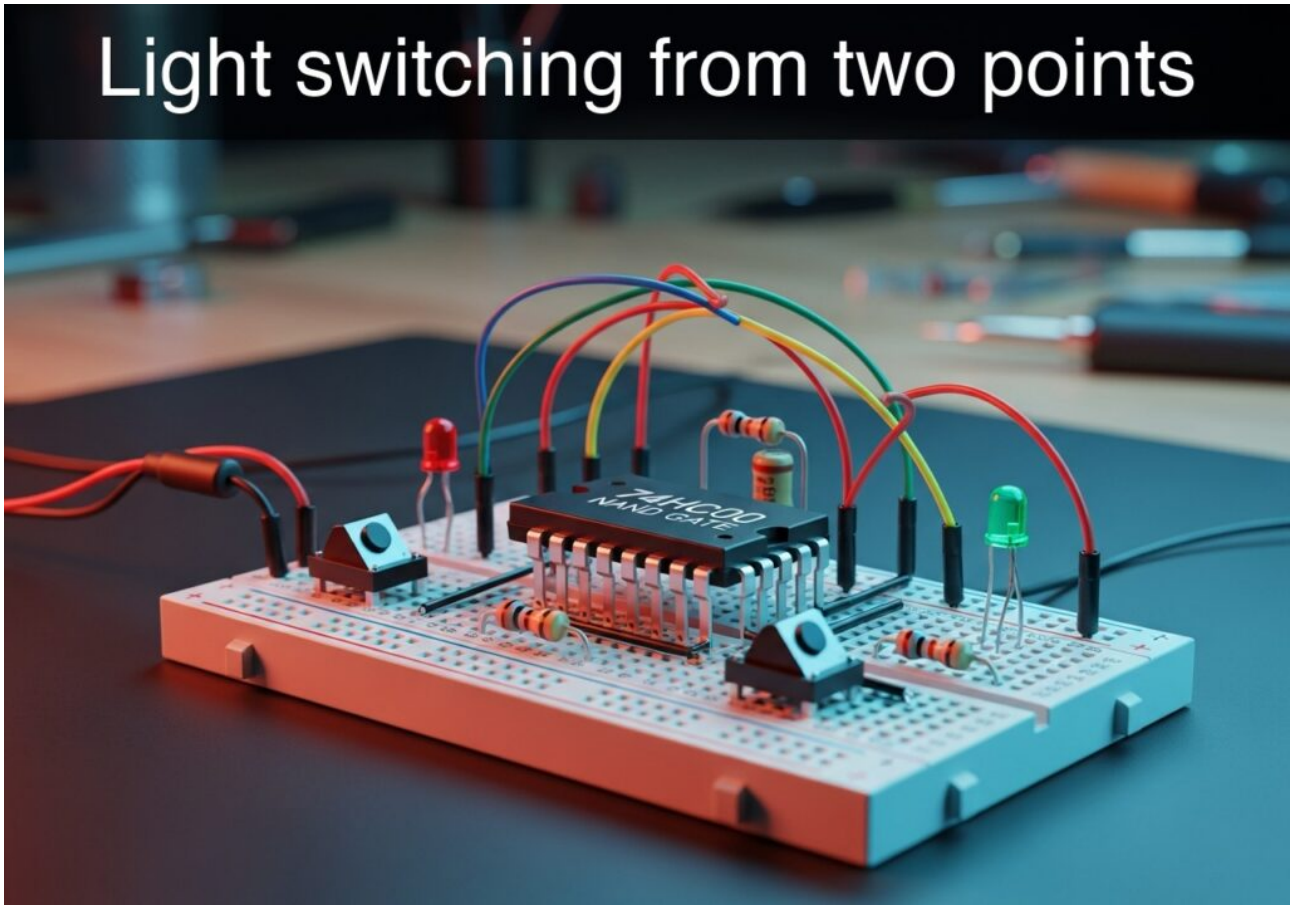
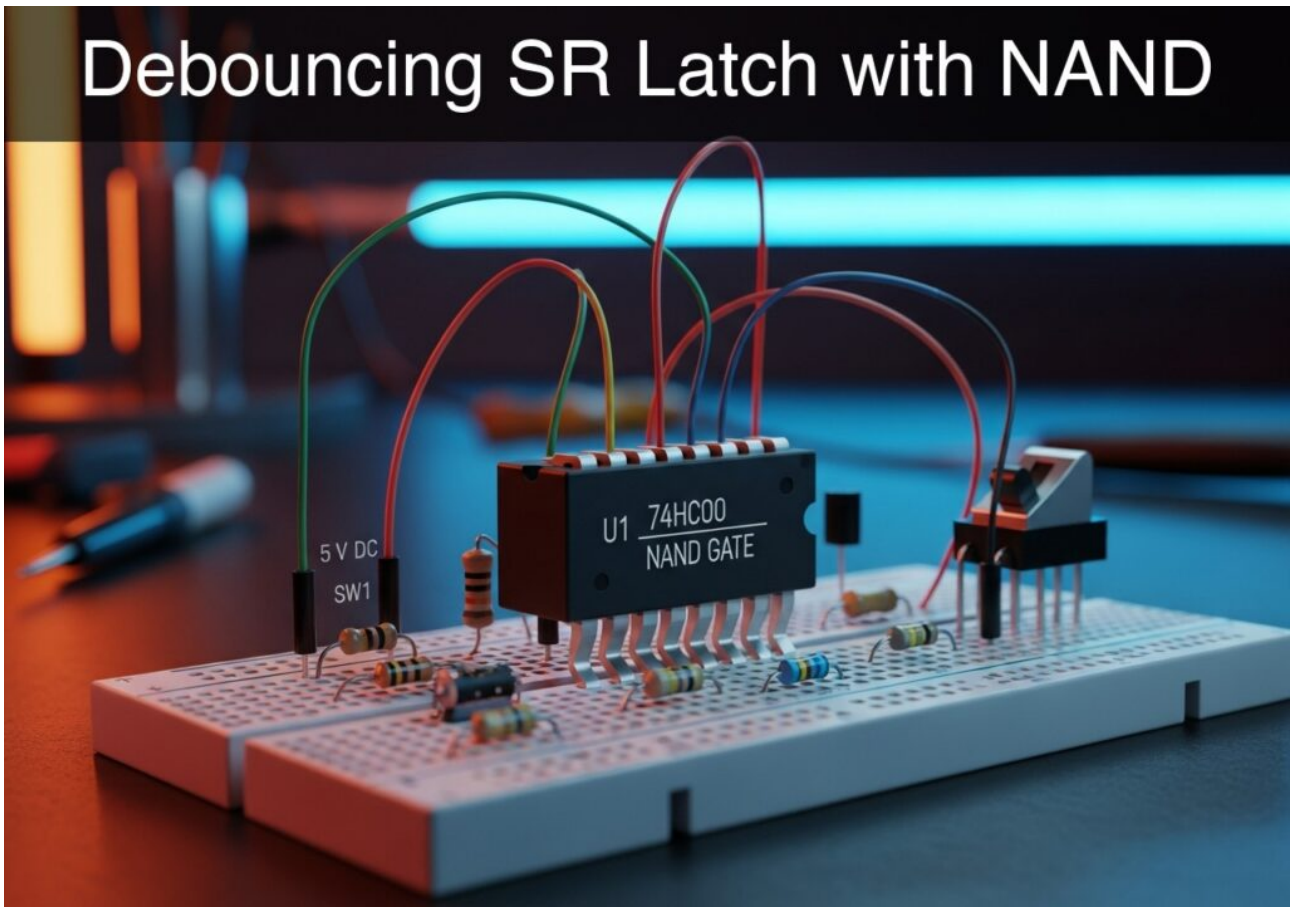
Practical case: Light switching from two points



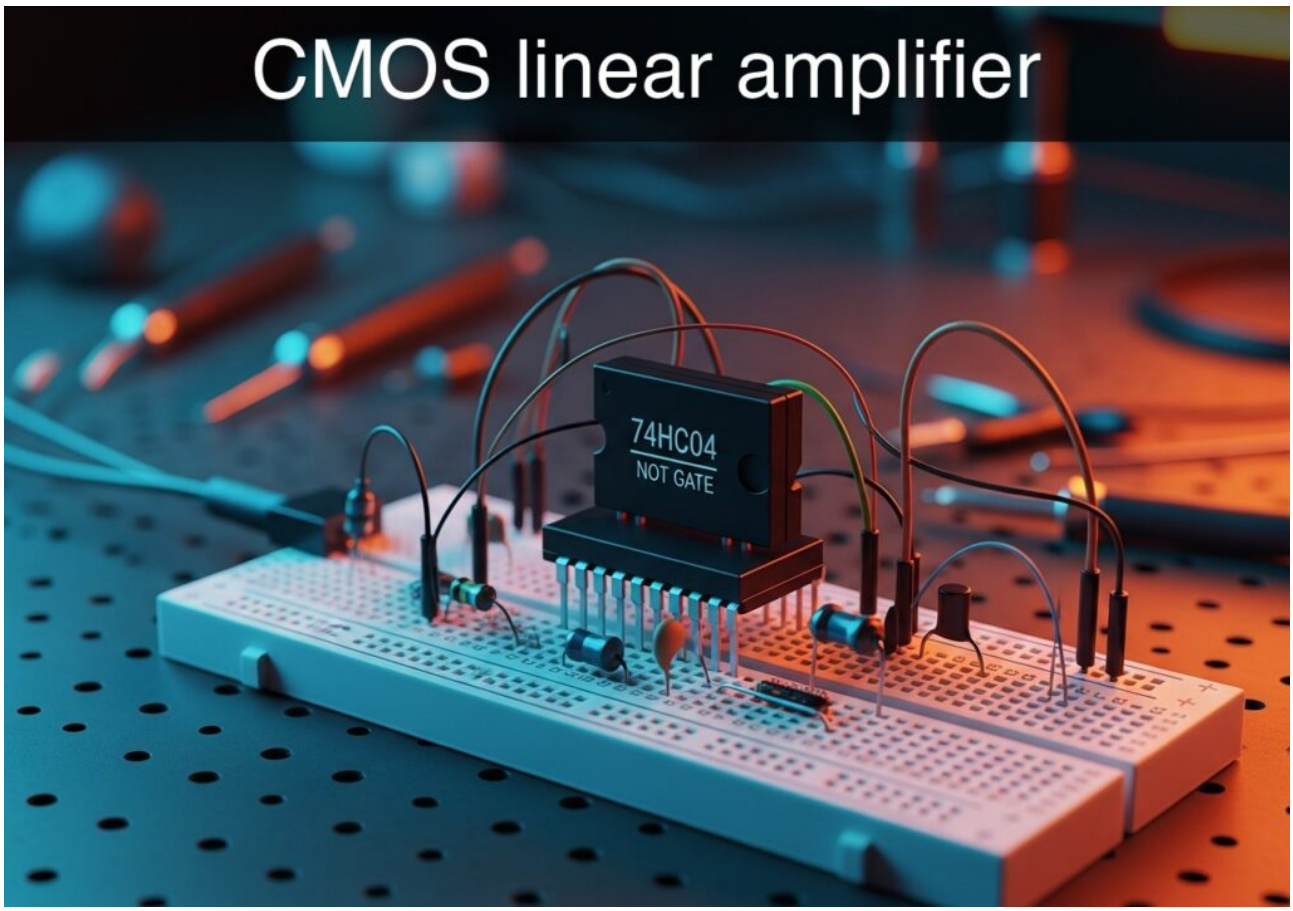
Master Digital Electronics by building a 2-way switch using the universal NAND gate. Synthesize XOR logic to toggle LED states based on dual input signals.

Practical case: Debouncing SR Latch with NAND



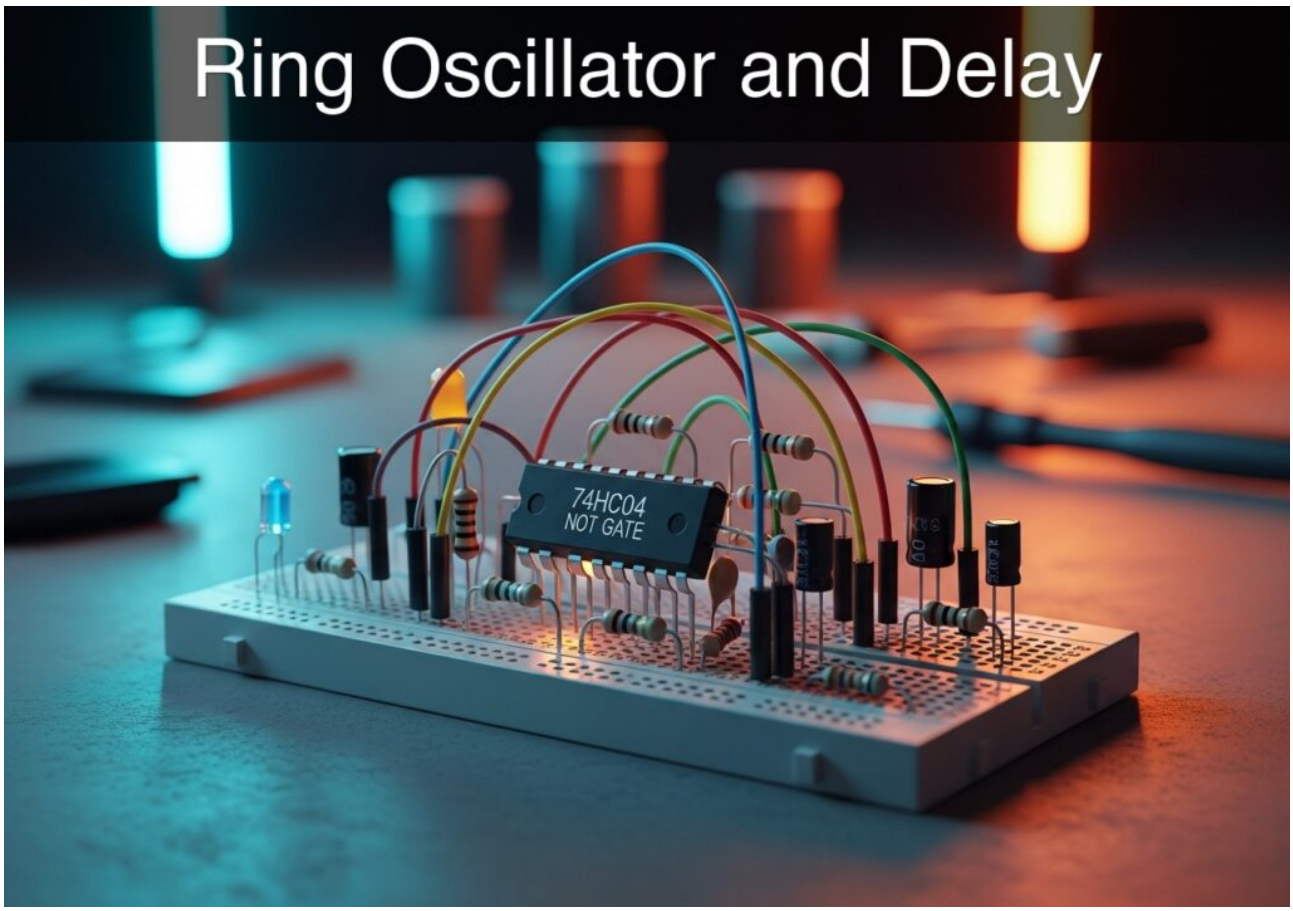
Master Digital Electronics by building a NAND gate SR latch to eliminate switch noise. Ensure clean signals and verify stable memory states with LEDs.

Practical case: CMOS linear amplifier



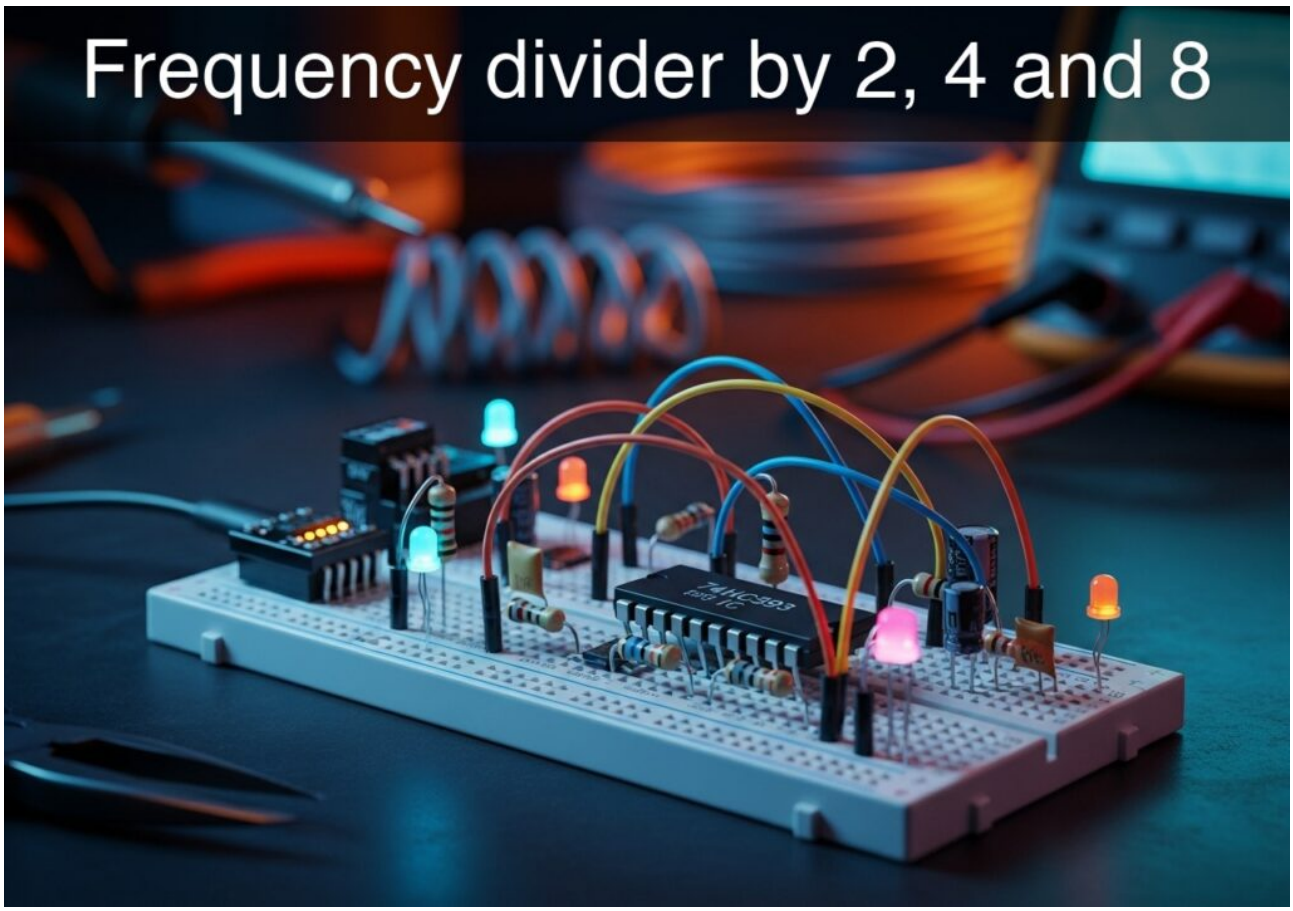
Explore Digital Electronics by configuring a NOT gate as a Class A linear amplifier. Build the circuit to observe measurable AC signal gain and self-biasing.

Practical case: Ring Oscillator and Delay



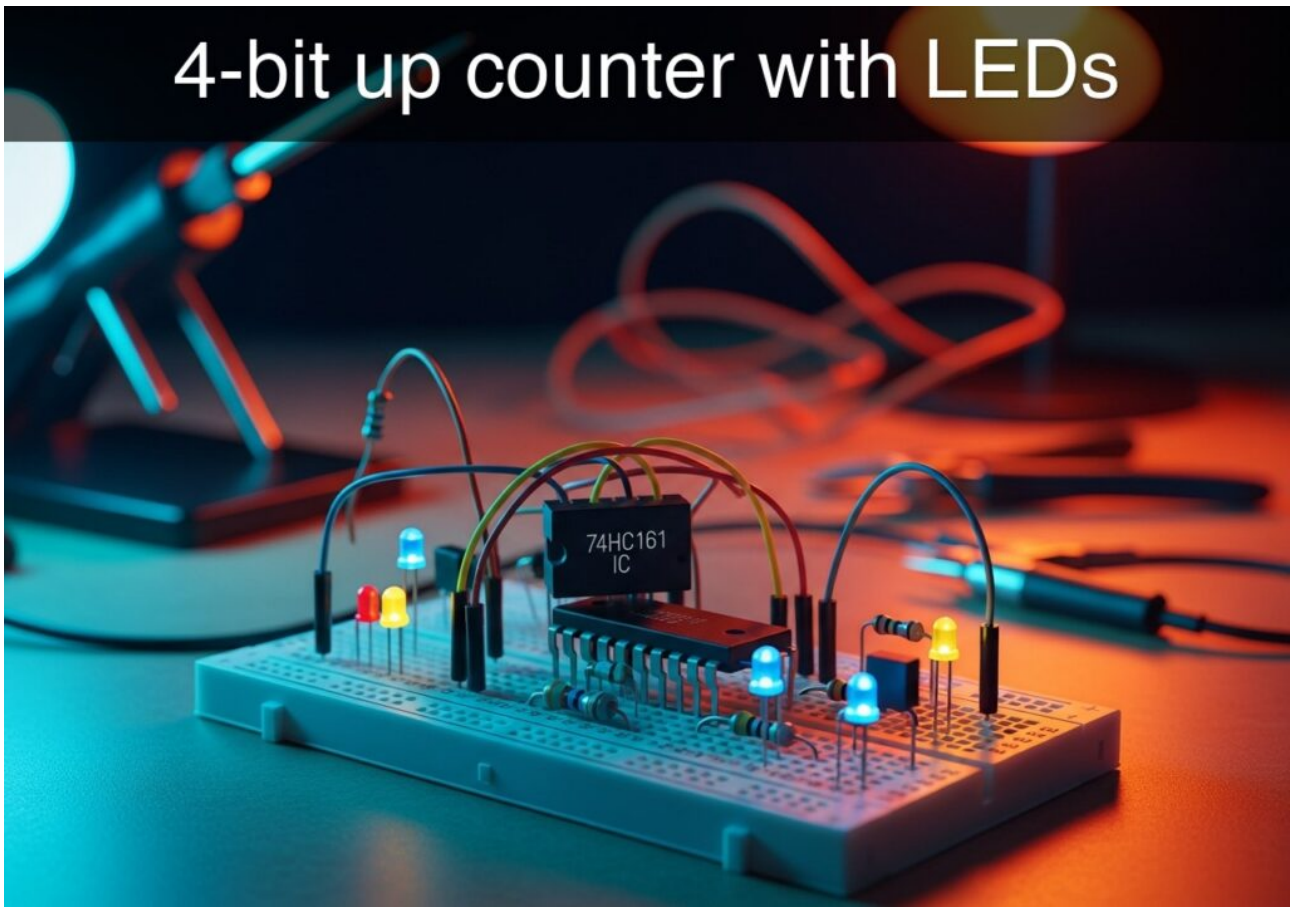
Master Digital Electronics by building a ring oscillator using NOT gates. Measure the MHz output frequency to calculate precise propagation delay.

Practical case: Frequency divider by 2, 4 and 8



In this Digital Electronics lab, use a Binary counter to build a frequency divider. Verify square wave outputs at f/2, f/4, and f/8 relative to the clock.

Practical case: 4-bit up counter with LEDs



Build a practical Digital Electronics circuit with a Binary counter. Visualize the 0 to 15 sequence on LEDs and verify synchronous clock signals.