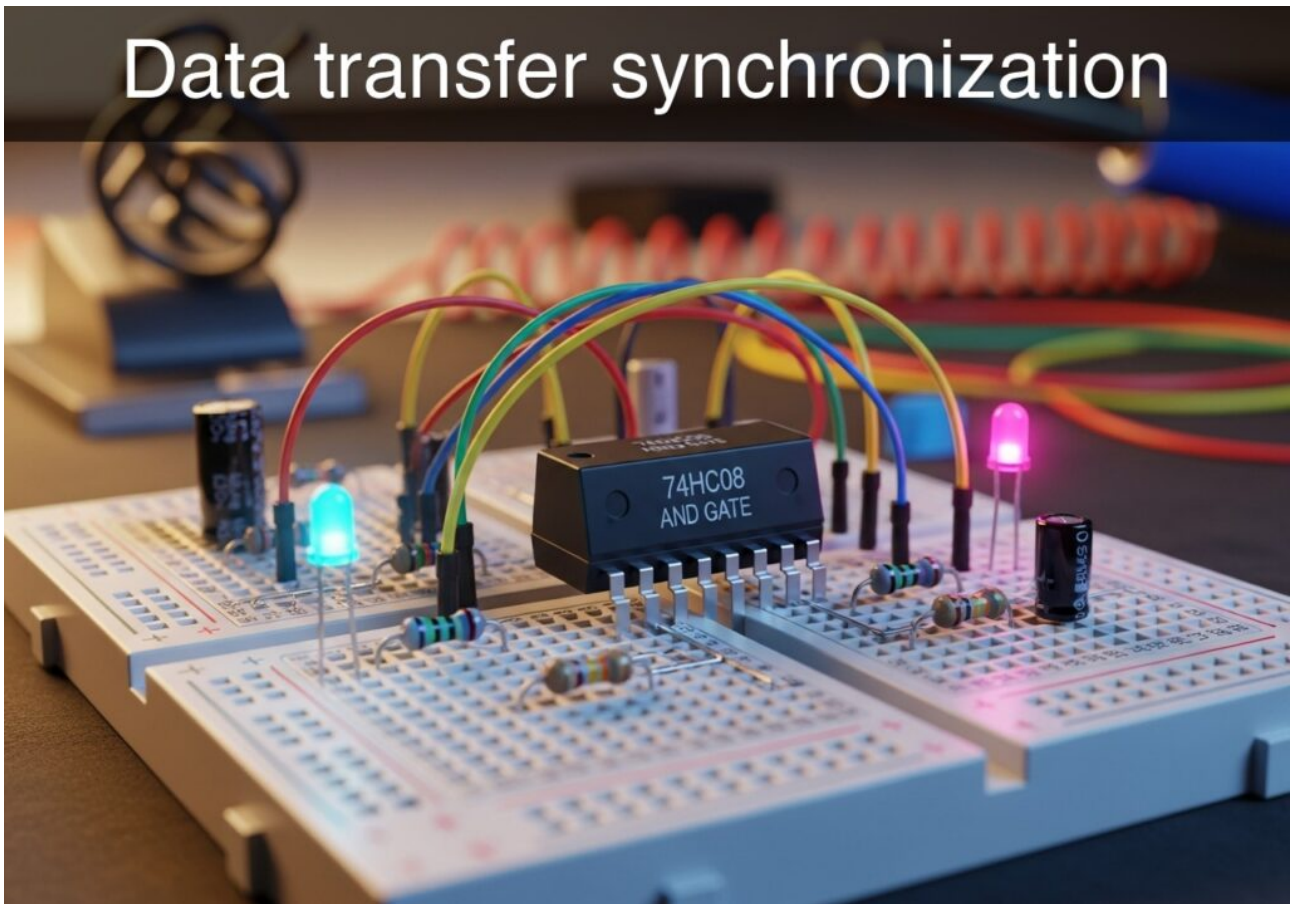


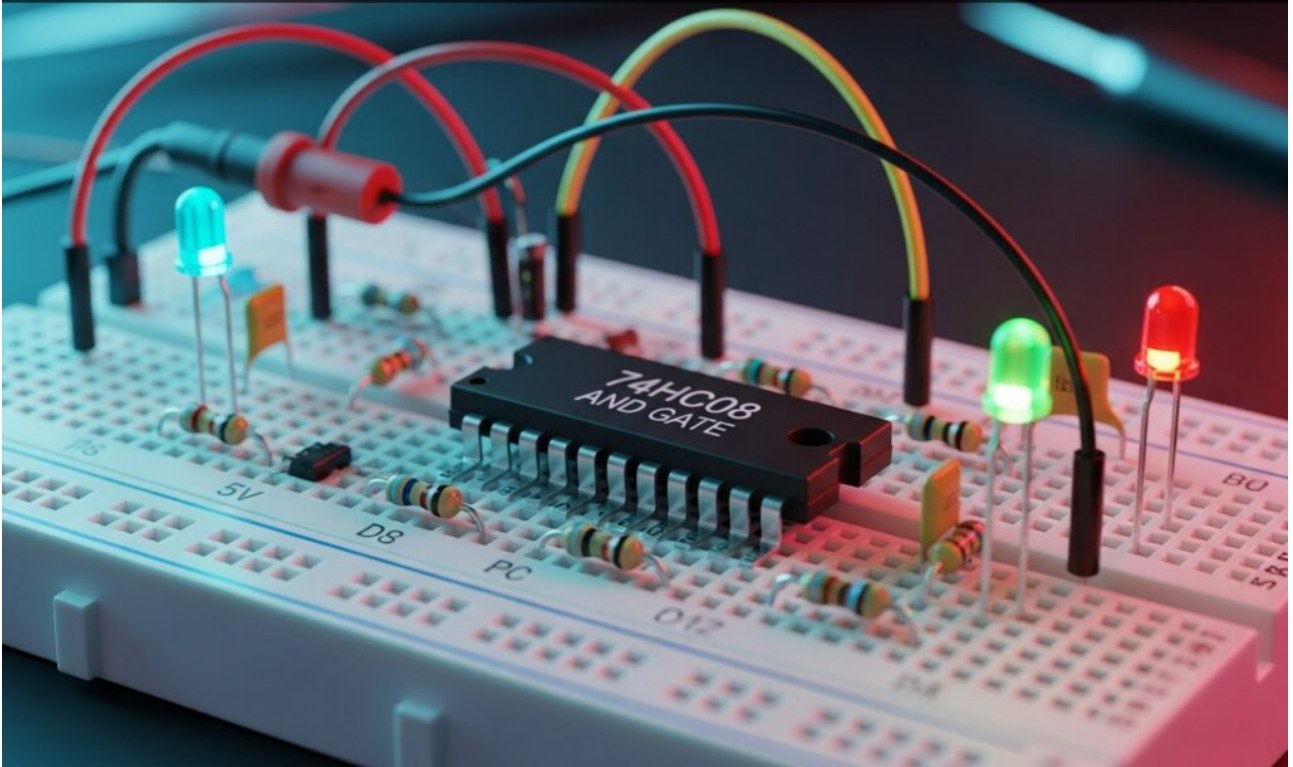
Practical case: Data transfer synchronization



Master Digital Electronics by building a clock gating circuit with an AND gate. Ensure precise synchronization pulses and reduce power only when data is ready.

Practical case: Safety interlock in a chemical reactor

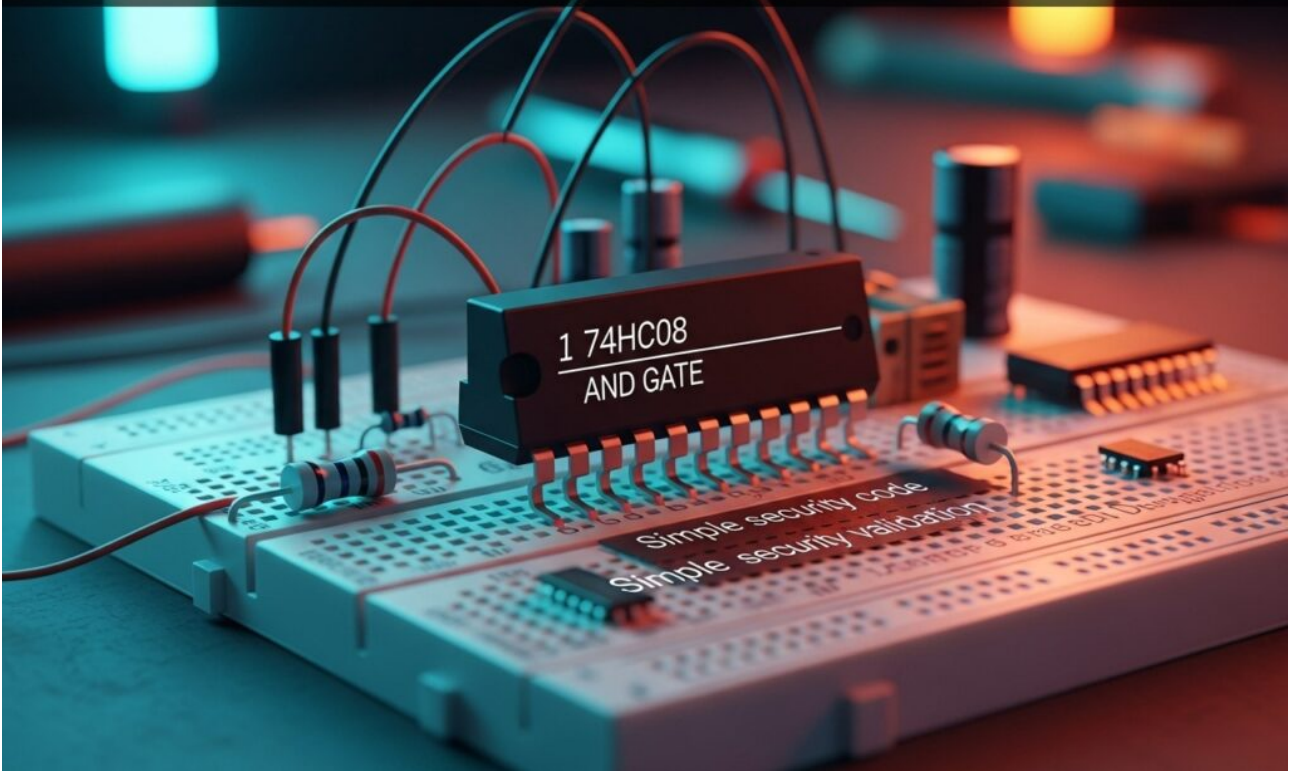
Safety interlock in a chemical reactor



Master Digital Electronics by building a redundant safety interlock. Use an AND gate circuit to validate three critical inputs and activate a high-power relay.

Practical case: Simple security code validation

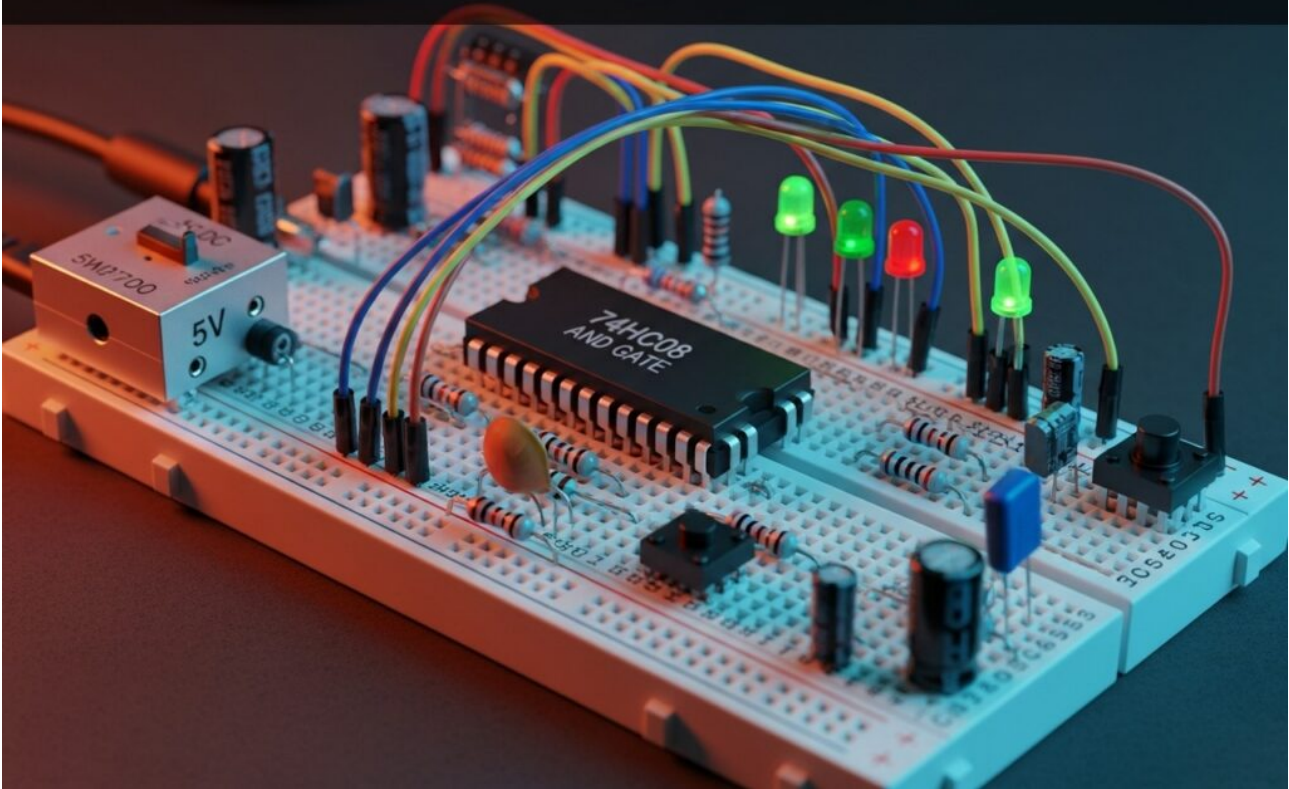
Simple security code validation



Master Digital Electronics by building a dual-switch security lock. Use a 74HC08 AND gate to trigger a solenoid only when two signals activate simultaneously.

Practical case: Conveyor belt start system

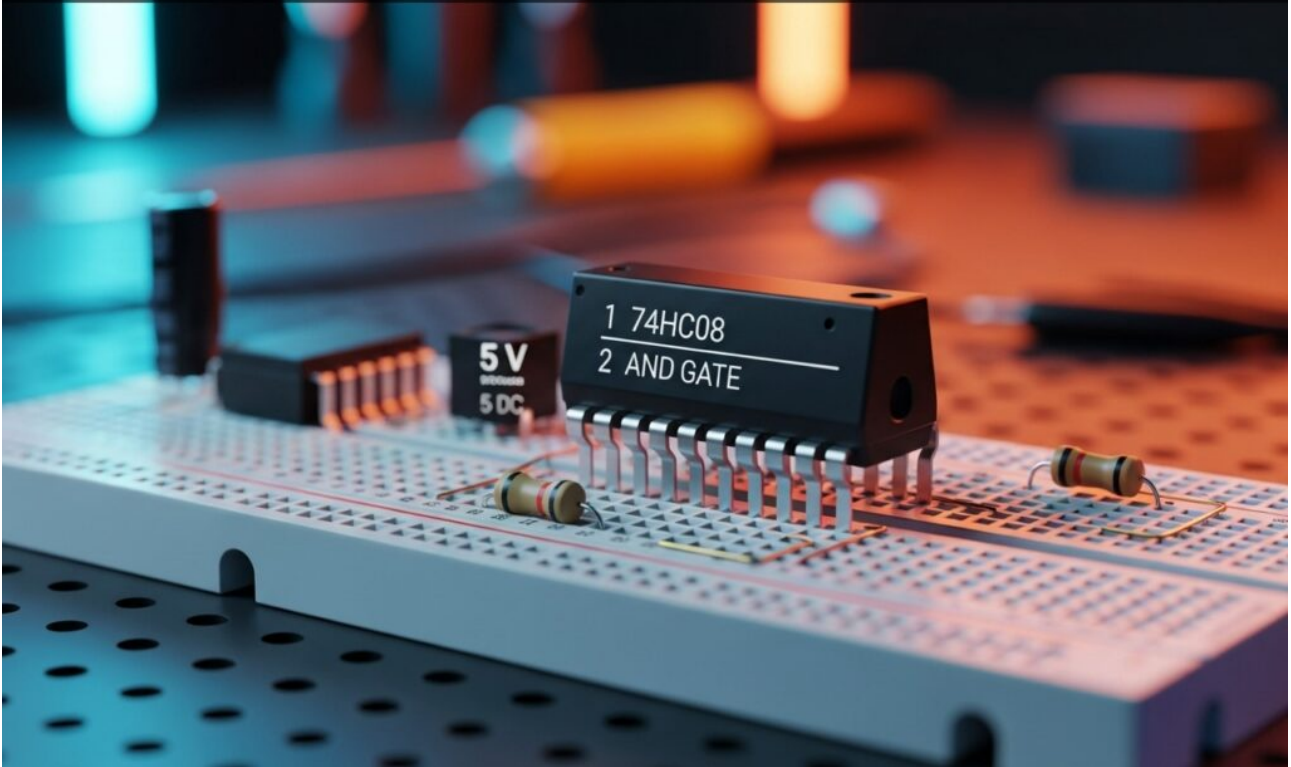
Conveyor belt start system



Master Digital Electronics by building a safety interlock circuit. Use a 74HC08 AND gate to activate a conveyor motor only when specific sensor signals align.

Practical case: Temperature and Pressure Monitoring

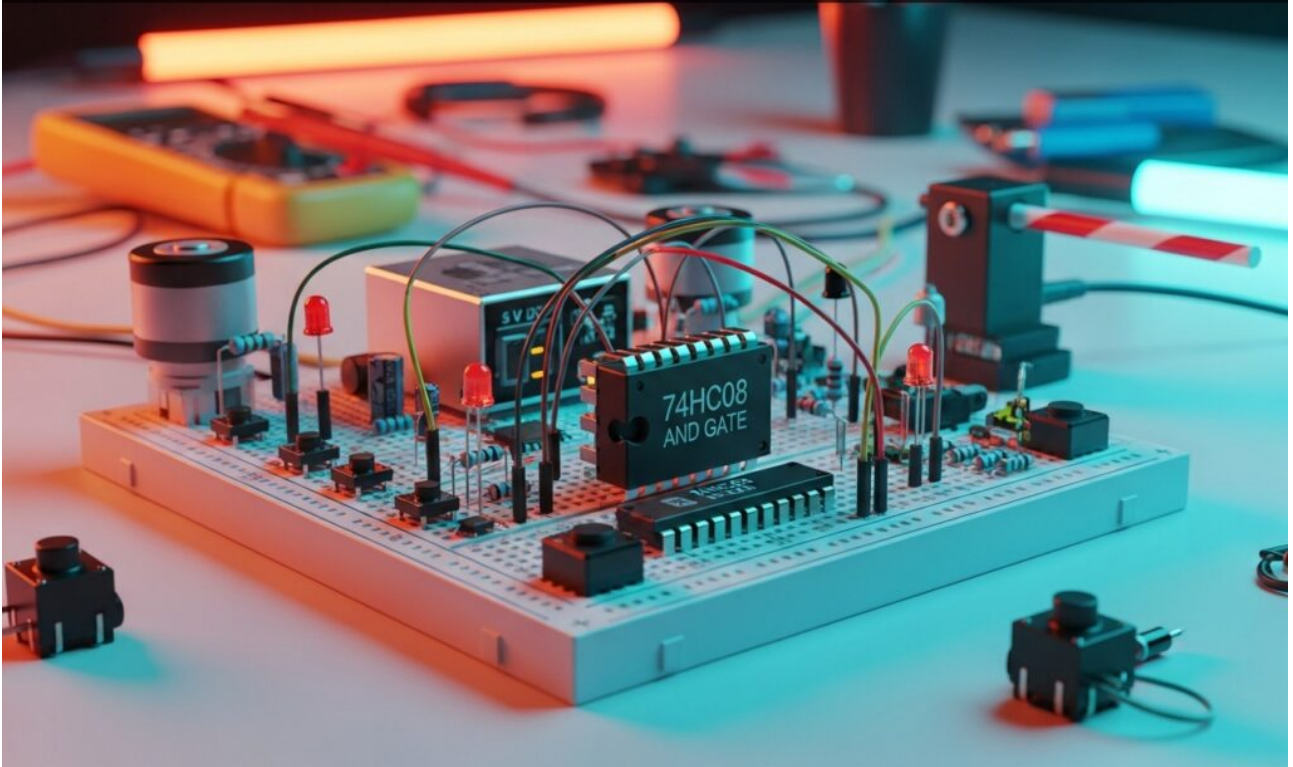
Temperature and Pressure Monitoring



Master Digital Electronics by building an industrial safety circuit. Use an AND gate to trigger an alarm only when both temperature and pressure sensors spike.

Practical case: Vehicle access control with barrier

Vehicle access control with barrier



Master Digital Electronics by building a safety barrier circuit. Use a 74HC08 AND gate to trigger a 5V LED signal only when dual inputs activate simultaneously.