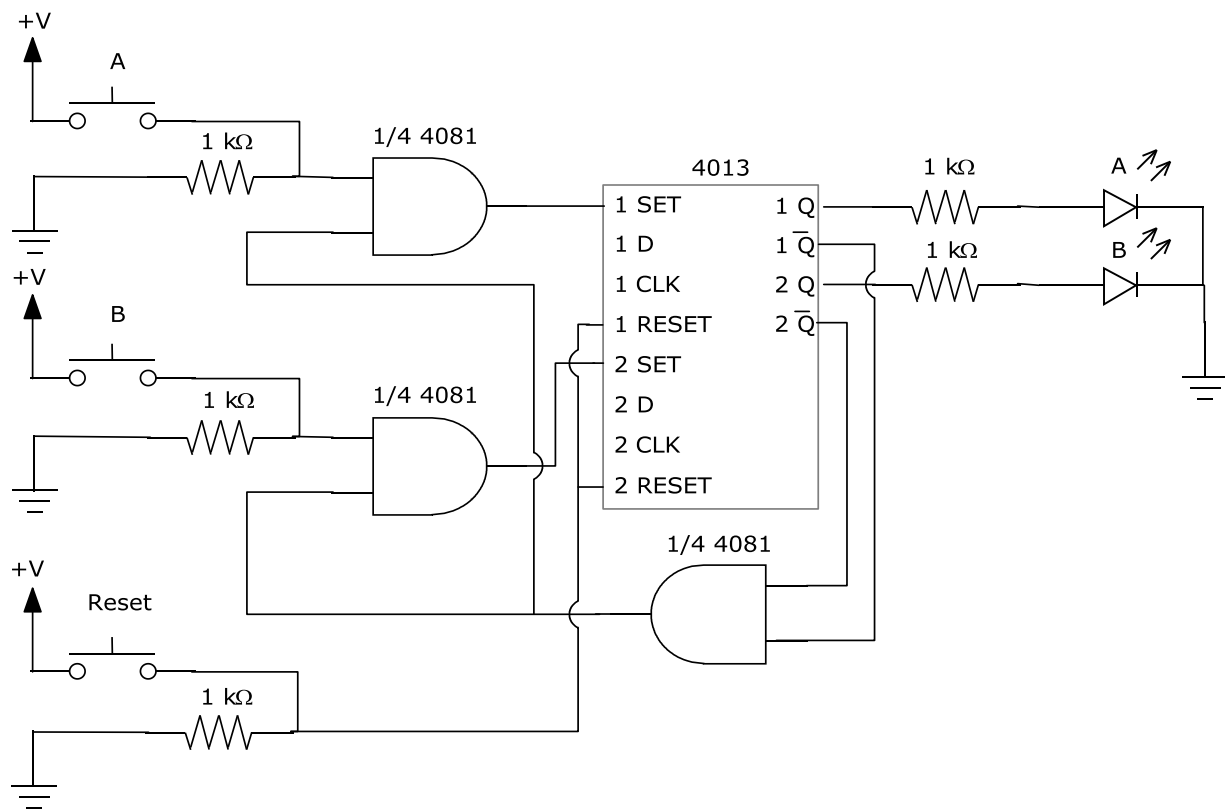


PACE Electrical Engineering

Quiz Game Response Light Project

Description

This circuit illustrates how the contestant response buttons and lights for a TV quiz show work. It aids the quizmaster in determining which contestant first indicated that he or she would like to answer the quiz question. To start, the reset button must be pushed to ready the circuit. The quizmaster poses a question to two contestants. Each contestant, A and B, must push his or her button as soon as ready to answer the question. The light for the first contestant to do so will light and that contestant gets to answer the question. The light from the other contestant will not light, so it is clear which contestant was first. The reset button is pushed prior to each question,



Notes

For the 4013 and 4081,

PIN 7 = 0V

PIN 14 = V

For the 4013 set the clock and all other unused pins to 0V

The supply voltage, V, may be anything between 3 and 15 volts

Procedure

1. Create a parts list (including items not explicitly shown on the circuit diagram, such as breadboard, wire, battery holder, etc.).
2. Collect the necessary parts and tools.
3. Using the spec sheets for the 4013 and 4081 chips for reference, mark the pin numbers on the diagram. This will help you make correct connections.
4. Assemble the circuit.
5. Test and troubleshoot the circuit.

Quiz Game Response Light – Going Further

1. In actual game shows, when a contestant hits his or her button, a buzzer goes off briefly, while the light stays on. How can we add that feature to our circuit?
2. How might you build a more practical version of this? In other words what modifications would you make so that you could image it being used in a real TV game show?
3. How could you extend this to three or more contestants?