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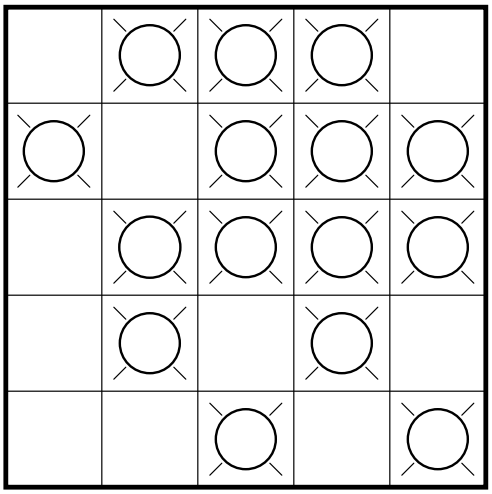
Math Club Teaser #55

February 11, 2011
(due February 18, 2011)

Each cell in a 5×5 array has a lightbulb and a button. If a button is pushed, the lights in that cell and all adjacent cells (up, down, and sides) will switch; i.e., if the light was on, it turns off, and the other way around.

Starting with a board where all lights are off, find a sequence of buttons to push that reaches the configuration below:



The IUPUI Math Club invites everybody to submit solutions to its weekly recreational mathematics problem. Interested individuals and teams of up to four participants can submit written solutions. At the end of the semester, prizes will be distributed among the IUPUI undergraduate teams that submit the most correct solutions. Solutions are due one week after each problem is posted, and should be faxed to (317) 274-3460, dropped off in person at LD 270, or sent by campus or U.S. mail to:

Math Club Teaser
Dept. of Mathematical Sciences
IUPUI, LD-270
402 N. Blackford Street
Indianapolis, IN 46202