

I U P U I
MATH CLUB TEASER #8

November 21, 2008
(due December 2, 2008)

Compete on December 5 in the first annual

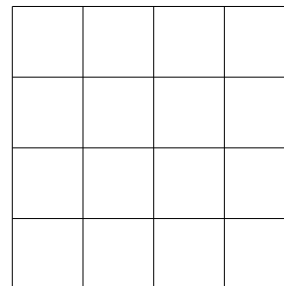
MATHLETIC COMPETITION

PRIZES! FUN!

**The registration form is available on the Math
Club website (see below).**

Myles is bored, so Squanto teaches him the following game. Write a 0 or a 1 in each square of a 4×4 array, then try to flip the numbers so that in the end all squares show a 0. A flip exchanges all the 0's and 1's in any row, column, or diagonal. Here, *diagonal* means any chain of squares running NE-to-SW or NW-to-SE. There are 7 diagonals in each direction.

Myles will be very thankful if you can help him determine which initial configurations of 0's and 1's will allow him to end with a board showing only 0's.



The IUPUI Math Club invites everybody to submit solutions to its weekly recreational mathematics problem. Interested individuals and teams of up to four participants must submit a cover sheet (available at jagmath.usg.iupui.edu) together with their written solution. At the end of the semester, every IUPUI student that sent a correct solution will receive a certificate of merit. 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