

Cal Poly Department of Mathematics

Puzzle of the Week

April 25-May 1, 2013

Find a ten digit number n whose left-most digit is the number of 0s in n , the digit second from the left is the number of 1s in n , and so on until the tenth digit, which is the number of 9s in n .

Solutions should be submitted to Morgan Sherman:

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before next Thursday. Those with correct and complete solutions will have their names listed on the puzzle's web site (see below) as well as in next week's email announcement. Anybody is welcome to make a submission.

<http://www.calpoly.edu/~sherman1/puzzleoftheweek>

Solution: The answer (and I believe the only answer — let me know if I'm wrong!) is 6210001000. If you place an n in the left-most digit, then you must place a number bigger than zero in the n th spot, leaving at most 8 places for zeroes. Now start by trying with 8, find it won't work, and work down the list of numbers. Eventually you'll zero in on the above number.