

## Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

February 2-9

Set  $B$  is a subset of  $\{1, 2, 3, \dots, 6027\}$  with exactly 4018 elements. Prove that there is a subset  $A$  of  $B$  with exactly 2009 elements and the following property: when the members of  $A$  are ordered, from smallest to largest, any two consecutive elements have different parity.

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This contest is sponsored by the Mathematics Department. Open to all CSUN students. Winner gets \$10 or an equivalent prize. All complete and correct solutions get a certificate. Type and send your solution before February 9th, 9:00PM to [silvia.fernandez@csun.edu](mailto:silvia.fernandez@csun.edu). All steps of the solution must be clearly justified. For rules, winners, solutions, and more information visit: [www.csun.edu/math/probweek](http://www.csun.edu/math/probweek)