Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: May 2012

Let S be the set of all subsets of the set $\{1, 2, \ldots, 2012\}$. Find the total number of functions $f : S \to \{0, 1\}$ satisfying

$$f(U \cap V) = min(f(U), f(V))$$

for all $U, V \in S$.