



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: June 2025

Let $n \geq 4$ is an integer. Suppose that some unit squares of $n \times n$ grid are marked. We say that two distinct marked unit squares are *line related* if they are on the same line and there is no any other marked unit square on the same line located between them. We say that two distinct marked unit squares are *column related* if they are on the same column and there is no any other marked unit square on the same column located between them. We say that two marked unit squares are *related* if they are line or column related. Find the maximal possible number of marked unit squares on the $n \times n$ grid if any marked unit square is related with an odd number of marked unit squares.