Homework 4

a) How many numbers between 1 and 10,000 (inclusive) are divisible by 5? How many are divisible by either 5 or 7? How many are divisible by either 5, 7 or 13?

From Brualdi, Chapter 6: 1, 2, 3, 11.

b) Evaluate $D_5$, $D_6$ and $D_7$.

c) Consider the $4 \times 4$ chessboard with forbidden positions $(1, 1)$, $(1, 2)$ and $(4, 4)$. How many ways are there to place 4 non-attacking rooks on this board?

From Brualdi, Chapter 6: 15, 24.

Challenge Problem

On the first Monday back after Spring Break you should hand in a short piece of written work describing your attacks on one of the challenge problems. Include ideas you had which didn’t work and explain why successful ideas did work. I am more interested in your personal reflections on the problem than a description of a correct solution.