



Summer Problem of 2022

5/16/2022 to 8/28/2022

The squares of an infinite chessboard are numbered successively as follows: in the bottom lefthand corner we place a 0, and then in every other square we place the smallest nonnegative integer that does not appear to its left in the same row or below it in the same column (see the figure below). What number appears at the intersection of the 2022nd row and the 500th column?

(Assume the columns are labeled from left-to-right and top-to-bottom starting with 1, i.e., 0 is at the intersection of the 1st row and 1st column.)

⋮					
4	5	⋯			
3	2	1	0		
2	3	0	1	⋯	
1	0	3	2	5	
0	1	2	3	4	⋯

Have a great summer!

Solutions to the last problem were submitted by Ziad Aramouni (Lebanon), Suliko Bolkvadze (Georgia, the country), Phil Boyd (Manchester, England), M.V. Channakeshava (India), Ritwik Chaudhuri (India), Evan Fu (Beaverton, OR), Amelia Gibbs (Trinity undergraduate), Rob Hill (Gambrills, MD), Kipp Johnson (Beaverton, OR), Vaishnavi Josyula (Frisco, TX), Hari Kishan (India),

Tengiz Kutchava (Georgia, the country), Yann Michel (Paris, France), Rich Rutty (Austin, TX), François Seguin (Amiens, France), Hicham Selmouni (Paris, France), Michael Tomaine (Bellevue, WA), Zurab Zakaradze (Georgia, the country).

Solutions for this problem can be submitted to Dr. Brian Miceli at bmiceli@trinity.edu. People who submit solutions will be acknowledged on the next problem. If you like these problems, you may be interested in the Putnam Exam, and more information on the Putnam Exam may be found [HERE](#).