

2D Array Problems Set 4

Assignment Questions

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Q1 - Write a user defined function upper() which takes an integer square matrix as an input and its size N and prints the upper half of the matrix.

(Easy)

Sample Input: arr[][] = [[1,2,3,4],[5,6,7,8],[9,10,11,12],[13,14,15,16]] N=4

Sample Output: 1 2 3 4
6 7 8
11 12
16

Q2 - A square matrix is said to be an perfect Matrix if both of the following conditions hold:

(Medium)

a) All the elements in the diagonals of the matrix are non-zero integers.

b) All other elements except the diagonal elements are 0.

Given a 2D integer array grid of size n x n representing a square matrix, return true if grid is a perfect matrix. Otherwise, return false using functions.

Sample Input: [[1,0,0,1],[0,2,1,0],[0,1,2,0],[3,0,0,1]]

Sample Output: true

Sample Input: [[5,7,0],[0,3,1],[0,5,0]]

Sample Output: false