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Test Name: Mock Test

 Taken On:
 17 Jan 2024 18:22:28 IST

 Time Taken:
 27 min 30 sec/ 30 min

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Invited by: Ankush

Invited on: 17 Jan 2024 18:21:53 IST

Skills Score:

Tags Score: Algorithms 90/90

Constructive Algorithms 90/90

Core CS 90/90

Greedy Algorithms 90/90

Medium 90/90

Problem Solving 90/90 problem-solving 90/90

100% 90/90

scored in **Mock Test** in 27 min 30 sec on 17 Jan 2024 18:22:28 IST

Recruiter/Team Comments:

No Comments.

Plagiarism flagged

We have marked questions with suspected plagiarism below. Please review it in detail here -

Question Description

Time Taken

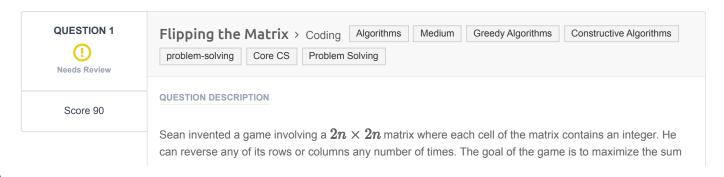
Score

Status

Plipping the Matrix > Coding

27 min 23 sec

90/ 90



of the elements in the $n \times n$ submatrix located in the upper-left quadrant of the matrix.

Given the initial configurations for q matrices, help Sean reverse the rows and columns of each matrix in the best possible way so that the sum of the elements in the matrix's upper-left quadrant is maximal.

Example

```
matrix = \left[ [1,2], [3,4] \right]
```

```
1 2
3 4
```

It is 2×2 and we want to maximize the top left quadrant, a 1×1 matrix. Reverse row 1:

```
1 2
4 3
```

And now reverse column 0:

```
4 2
1 3
```

The maximal sum is 4.

Function Description

Complete the flippingMatrix function in the editor below.

flippingMatrix has the following parameters:

- int matrix[2n][2n]: a 2-dimensional array of integers

Returns

- int: the maximum sum possible.

Input Format

The first line contains an integer q, the number of queries.

The next q sets of lines are in the following format:

- The first line of each query contains an integer, ${\it n}.$
- Each of the next 2n lines contains 2n space-separated integers matrix[i][j] in row i of the matrix.

Constraints

- $1 \le q \le 16$
- $1 \le n \le 128$
- $0 \leq matrix[i][j] \leq 4096$, where $0 \leq i, j < 2n$.

Sample Input

Sample Output

```
414
```

Explanation

Start out with the following $2n \times 2n$ matrix:

$$matrix = egin{bmatrix} 112 & 42 & 83 & 119 \ 56 & 125 & 56 & 49 \ 15 & 78 & 101 & 43 \ 62 & 98 & 114 & 108 \end{bmatrix}$$

Perform the following operations to maximize the sum of the $n \times n$ submatrix in the upper-left quadrant: 2. Reverse column 2 ([83, 56, 101, 114] \rightarrow [114, 101, 56, 83]), resulting in the matrix:

$$matrix = egin{bmatrix} 112 & 42 & 114 & 119 \ 56 & 125 & 101 & 49 \ 15 & 78 & 56 & 43 \ 62 & 98 & 83 & 108 \ \end{bmatrix}$$

3. Reverse row 0 ([112, 42, 114, 119] ightarrow [119, 114, 42, 112]), resulting in the matrix:

$$matrix = egin{bmatrix} 119 & 114 & 42 & 112 \ 56 & 125 & 101 & 49 \ 15 & 78 & 56 & 43 \ 62 & 98 & 83 & 108 \end{bmatrix}$$

The sum of values in the n imes n submatrix in the upper-left quadrant is 119+114+56+125=414

CANDIDATE ANSWER

Language used: C++14

```
2 /*
   * Complete the 'flippingMatrix' function below.
4 *
   * The function is expected to return an INTEGER.
   * The function accepts 2D INTEGER ARRAY matrix as parameter.
8
9 int flippingMatrix(vector<vector<int>> matrix) {
     int quadrant size = matrix.size()/2;
      int curr sum = 0;
      int mat idx = matrix.size()-1;
     for (int i = 0; i<quadrant size; i++) {
         for (int ii = 0; ii<quadrant_size; ii++) {</pre>
              curr sum += max({matrix[i][ii], matrix[i][mat idx-ii],
17 matrix[mat_idx-i][ii], matrix[mat_idx-i][mat_idx-ii]});
       return curr_sum;
22 }
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0066 sec	9 KB
Testcase 2	Easy	Hidden case	Success	15	0.0542 sec	9.18 KB
Testcase 3	Easy	Hidden case	Success	15	0.0657 sec	9.15 KB
Testcase 4	Easy	Hidden case	Success	15	0.0358 sec	8.98 KB

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Testcase 5	Easy	Hidden case	Success	15	0.0658 sec	9.27 KB	
Testcase 6	Easy	Hidden case	Success	15	0.0563 sec	9.16 KB	
Testcase 7	Easy	Hidden case	Success	15	0.0644 sec	9.21 KB	
Testcase 8	Easy	Sample case	Success	0	0.0062 sec	8.84 KB	
No Comments							

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