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Test Name:	**Mock Test**
Taken On:	11 Mar 2023 00:30:13 IST
Time Taken:	23 min 56 sec/ 30 min
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Invited by:	Ankush
Invited on:	11 Mar 2023 00:30:03 IST
Skills Score:	
Tags Score:	Algorithms 0/90 Constructive Algorithms 0/90 Core CS 0/90 Greedy Algorithms 0/90 Medium 0/90 Problem Solving 0/90 problem-solving 0/90

0%

0/90

scored in **Mock Test** in 23 min 56 sec on 11 Mar 2023 00:30:13 IST

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	Flipping the Matrix > **Coding**	23 min 51 sec	0/ 90	⊗

QUESTION 1

⊗

Wrong Answer

Score 0

Flipping the Matrix > Coding

Algorithms | Medium | Greedy Algorithms | Constructive Algorithms | problem-solving | Core CS | Problem Solving

QUESTION DESCRIPTION

Sean invented a game involving a $2n \times 2n$ matrix where each cell of the matrix contains an integer. He can reverse any of its rows or columns any number of times. The goal of the game is to maximize the sum 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

$matrix = [[1, 2], [3, 4]]$

```
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, n.
- Each of the next $2n$ lines contains $2n$ space-separated integers $matrix[i][j]$ in row i of the matrix.

Constraints

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

Sample Input

```
STDIN           Function
-----           --------
1               q = 1
2               n = 2
112 42 83 119   matrix = [[112, 42, 83, 119], [56, 125, 56, 49], \
56 125 56 49              [15, 78, 101, 43], [62, 98, 114, 108]]
15 78 101 43
62 98 114 108
```

Sample Output

```
414
```

Explanation

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

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

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:

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

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

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

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

CANDIDATE ANSWER

Language used: **TypeScript**

```typescript
'use strict';

import { WriteStream, createWriteStream } from "fs";
process.stdin.resume();
process.stdin.setEncoding('utf-8');

let inputString: string = '';
let inputLines: string[] = [];
let currentLine: number = 0;

process.stdin.on('data', function(inputStdin: string): void {
    inputString += inputStdin;
});

process.stdin.on('end', function(): void {
    inputLines = inputString.split('\n');
    inputString = '';

    main();
});

function readLine(): string {
    return inputLines[currentLine++];
}



function flippingMatrix(matrix: number[][], n: number): number {
    console.log(matrix);

    return 0;
}

function main() {
    const ws: WriteStream = createWriteStream(process.env['OUTPUT_PATH']);
```

```
    const q: number = parseInt(readLine().trim(), 10);

    for (let qItr: number = 0; qItr < q; qItr++) {
        const n: number = parseInt(readLine().trim(), 10);

        let matrix: number[][] = Array(2 * n);

        for (let i: number = 0; i < 2 * n; i++) {
            matrix[i] = readLine().replace(/\s+$/g, '').split('
').map(matrixTemp => parseInt(matrixTemp, 10));
        }

        const result: number = flippingMatrix(matrix, n);

        ws.write(result + '\n');
    }

    ws.end();
}
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Wrong Answer	0	0.0705 sec	30.2 KB
Testcase 2	Easy	Hidden case	Wrong Answer	0	0.1645 sec	44.9 KB
Testcase 3	Easy	Hidden case	Wrong Answer	0	0.2171 sec	54.4 KB
Testcase 4	Easy	Hidden case	Wrong Answer	0	0.1612 sec	45.4 KB
Testcase 5	Easy	Hidden case	Wrong Answer	0	0.1882 sec	53.2 KB
Testcase 6	Easy	Hidden case	Wrong Answer	0	0.1652 sec	54 KB
Testcase 7	Easy	Hidden case	Wrong Answer	0	0.1825 sec	55 KB
Testcase 8	Easy	Sample case	Wrong Answer	0	0.0492 sec	30.4 KB

No Comments