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Test Name: Mock Test

Taken On: 14 Aug 2024 08:28:37 IST

Time Taken: 23 min 51 sec/ 24 min

Invited by: Ankush

Invited on: 14 Aug 2024 08:28:27 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
51 sec on 14 Aug 2024 08:28:37
IST

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	Flipping the Matrix > Coding	24 min 26 sec	0/ 90	

QUESTION 1

Wrong Answer

Score 0

Flipping the Matrix > Coding

AlgorithmsMediumGreedy AlgorithmsConstructive Algorithms

problem-solvingCore CSProblem 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

- $1 \leq q \leq 16$
- $1 \leq n \leq 128$
- $0 \leq \text{matrix}[i][j] \leq 4096$, 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

The candidate did not manually submit any code. The last compiled version has been auto-submitted and the score you see below is for the auto-submitted version.

Language used: **PyPy3**

```

1
2 #
3 # Complete the 'flippingMatrix' function below.
4 #
5 # The function is expected to return an INTEGER.
6 # The function accepts 2D_INTEGER_ARRAY matrix as parameter.
7 #
8
9 def flippingMatrix(matrix):
10     # Write your code here
11     ulqsum = 0
12     n = len(matrix)
13     for i in range(n):
14         for j in range(n):
15             if (i+j <= n-2):
16                 print(i,j)
17                 ulqsum += matrix[i][j]
18
19     return ulqsum
20
21

```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Wrong Answer	0	0.276 sec	71 KB
Testcase 2	Easy	Hidden case	Wrong Answer	0	0.5195 sec	75.3 KB
Testcase 3	Easy	Hidden case	Wrong Answer	0	0.6464 sec	76 KB
Testcase 4	Easy	Hidden case	Wrong Answer	0	0.4651 sec	75.3 KB

Testcase 5	Easy	Hidden case	⊗ Wrong Answer	0	0.584 sec	75.2 KB
Testcase 6	Easy	Hidden case	⊗ Wrong Answer	0	0.594 sec	76.5 KB
Testcase 7	Easy	Hidden case	⊗ Wrong Answer	0	0.5988 sec	74.9 KB
Testcase 8	Easy	Sample case	⊗ Wrong Answer	0	0.3032 sec	71.7 KB

No Comments

PDF generated at: 14 Aug 2024 03:24:47 UTC