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Test Name:

**Mock Test** 

Ankush

Taken On:

8 Aug 2021 00:55:18 IST

Time Taken:

8 min 15 sec/ 24 min

Invited by: Invited on:

8 Aug 2021 00:55:07 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 8 min 15 sec on 8 Aug 2021 00:55:18 IST

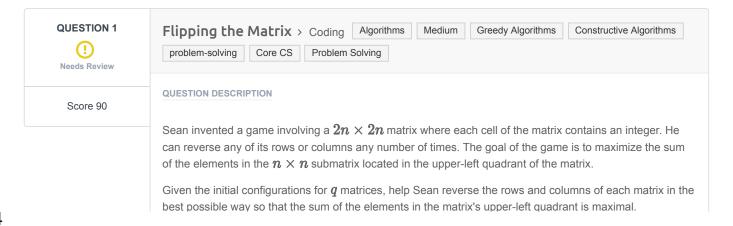
### **Recruiter/Team Comments:**

No Comments.

# Plagiarism flagged

We have marked questions with suspected plagiarism below. Please review.





# Example

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

```
1 2
3 4
```

It is  $2 \times 2$  and we want to maximize the top left quadrant, a  $1 \times 1$  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  $\boldsymbol{q}$ , 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

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

## Sample Input

## **Sample Output**

414

#### **Explanation**

Start out with the following 2n imes 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]  $\rightarrow$  [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: Python 3

```
1 #
2 # Complete the 'flippingMatrix' function below.
4 # The function is expected to return an INTEGER.
5 # The function accepts 2D INTEGER ARRAY matrix as parameter.
6 #
8 def flippingMatrix(matrix) -> int:
     # Write your code here
     n = len(matrix)
     sum = 0
      \# x = 5/2 \#2.5
      \# y = 5//2 \#2
      for i in range (n // 2):
         for j in range (n // 2):
              sum += max(matrix[i][j],
              matrix[i][n - j - 1],
              matrix[n - i - 1][j],
              matrix[n - i - 1][n - j - 1])
      return sum
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0377 sec	9.46 KB
Testcase 2	Easy	Hidden case	Success	15	0.1546 sec	11.6 KB
Testcase 3	Easy	Hidden case	Success	15	0.2376 sec	11.6 KB

	Testcase 4	Easy	Hidden case	0	Success	15	0.1537 sec	11.6 KB
	Testcase 5	Easy	Hidden case	<b>Ø</b>	Success	15	0.1736 sec	11.7 KB
	Testcase 6	Easy	Hidden case	0	Success	15	0.2247 sec	11.6 KB
	Testcase 7	Easy	Hidden case	0	Success	15	0.2162 sec	11.5 KB
	Testcase 8	Easy	Sample case	0	Success	0	0.0376 sec	9.3 KB
No	o Comments							

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