

Mock Test > fpourooshasb@gmail.com

Full Name: Fraidoon P Email: fpourooshasb@gmail.com Test Name: **Mock Test** Taken On: 24 Jul 2023 20:14:04 IST Time Taken: 5 min 1 sec/ 24 min Invited by: Ankush 24 Jul 2023 20:13:55 IST Invited on: Skills Score: Tags Score: Algorithms 90/90 Constructive Algorithms 90/90

Core CS 90/90

Problem Solving

problem-solving

Medium

Greedy Algorithms 90/90

90/90

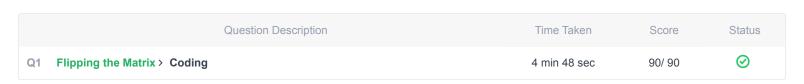
90/90

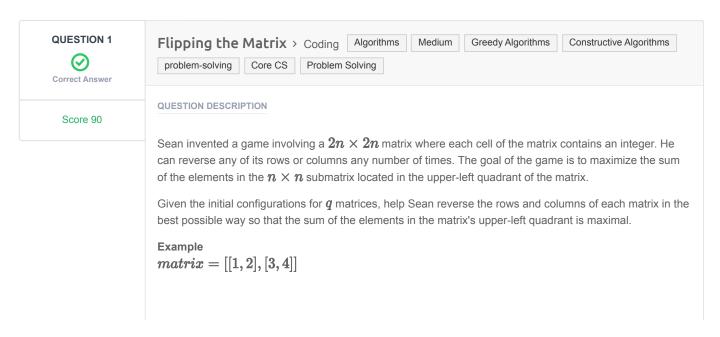
90/90

scored in **Mock Test** in 5 min 1 sec on 24 Jul 2023 20:14:04 IST **90/90**

Recruiter/Team Comments:

No Comments.





```
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

- $1 \le q \le 16$
- $1 \le n \le 128$
- $0 \leq matrix[i][j] \leq 4096$, 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 imes n submatrix in the upper-left quadrant:

2. Reverse column 2 ([83, 56, 101, 114] o [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

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CANDIDATE ANSWER

Language used: Python 3

```
# # Complete the 'flippingMatrix' function below.
# # The function is expected to return an INTEGER.
# The function accepts 2D_INTEGER_ARRAY matrix as parameter.
# 
def flippingMatrix(matrix):
    sum = 0

for i in range(n):
    for j in range(n):
        sum += max(matrix[i][j], matrix[i][~j], matrix[~i][j], matrix[~i]

[~j])

return sum
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0547 sec	10.5 KB
Testcase 2	Easy	Hidden case	Success	15	0.125 sec	13.3 KB
Testcase 3	Easy	Hidden case	Success	15	0.183 sec	12.9 KB
Testcase 4	Easy	Hidden case	Success	15	0.1208 sec	12.7 KB
Testcase 5	Easy	Hidden case	Success	15	0.1777 sec	13 KB
Testcase 6	Easy	Hidden case	Success	15	0.1807 sec	12.9 KB
Testcase 7	Easy	Hidden case	Success	15	0.1496 sec	13 KB
Testcase 8	Easy	Sample case	Success	0	0.0436 sec	10.8 KB

No Comments