H

Full Name: Ayoub Errazki

Email: ayouberrazki109@gmail.com

Test Name: Mock Test

Taken On: 17 Feb 2023 03:42:50 IST

Time Taken: 2 min 29 sec/ 24 min

Invited by: Ankush

Invited on: 17 Feb 2023 03:42:38 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 2 min 29 sec on 17 Feb 2023 03:42:50 IST

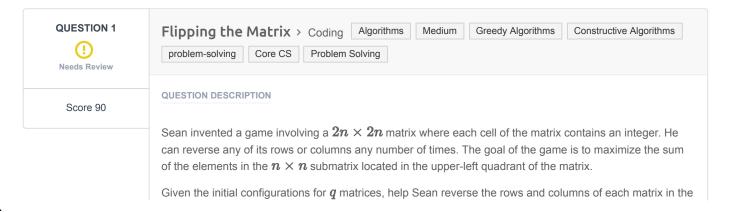
#### **Recruiter/Team Comments:**

No Comments.

## Plagiarism flagged

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





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  $2 \times 2$  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 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

- $1 \le q \le 16$
- $1 \le n \le 128$
- $ullet \ 0 \leq matrix[i][j] \leq 4096$ , 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  $n \times n$  submatrix in the upper-left quadrant is 119+114+56+125=414 .

#### **CANDIDATE ANSWER**

## Language used: C#

```
class Result
4
      * Complete the 'flippingMatrix' function below.
       * The function is expected to return an INTEGER.
       * The function accepts 2D INTEGER ARRAY matrix as parameter.
      public static int flippingMatrix(List<List<int>> matrix)
          var ndiv = matrix.Count / 2;
          var s=0;
          for (int i = 0; i < ndiv; i++)
              for (int j = 0; j < ndiv; j++)
                  var v1 = matrix[i][j];
                  var \ v2 = matrix[i][(ndiv * 2) - j - 1];
                  var v3 = matrix[(ndiv * 2) - i - 1][j];
                  var v4 = matrix[(ndiv * 2) - i - 1][(ndiv * 2) - j - 1];
                  s += Math.Max(v1, Math.Max(v2, Math.Max(v3, v4)));
          }
      return s;
```

| TESTCASE   | DIFFICULTY | TYPE        | STATUS  | SCORE | TIME TAKEN | MEMORY USED |
|------------|------------|-------------|---------|-------|------------|-------------|
| Testcase 1 | Easy       | Sample case | Success | 0     | 0.0543 sec | 20.6 KB     |
| Testcase 2 | Easy       | Hidden case | Success | 15    | 0.0882 sec | 37.1 KB     |
| Testcase 3 | Easy       | Hidden case | Success | 15    | 0.1272 sec | 37.2 KB     |
| Testcase 4 | Easy       | Hidden case | Success | 15    | 0.1095 sec | 35 KB       |
| Testcase 5 | Easy       | Hidden case | Success | 15    | 0.1317 sec | 37.1 KB     |
| Testcase 6 | Easy       | Hidden case | Success | 15    | 0.1257 sec | 37 KB       |
| Testcase 7 | Easy       | Hidden case | Success | 15    | 0.1229 sec | 37.1 KB     |
| Testcase 8 | Easy       | Sample case | Success | 0     | 0.0933 sec | 20.5 KB     |
|            |            |             |         |       |            |             |
| Comments   |            |             |         |       |            |             |

PDF generated at: 16 Feb 2023 22:17:22 UTC