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> Easy 70/105 Greedy Algorithms 90/90

Problem Solving 160/195 70/105

problem-solving 160/195

Medium

Search

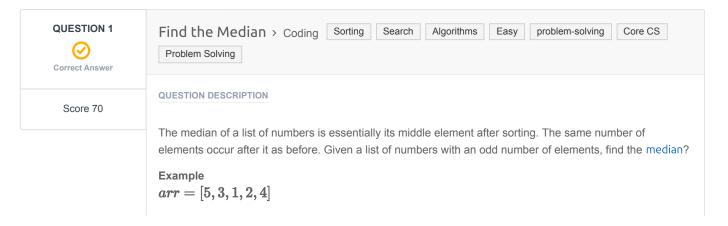
Sorting 70/105

scored in Mock Test in 33 min 82.1% 10 sec on 10 Aug 2025 08:42:34 IST 160/195

Recruiter/Team Comments:

No Comments.





The sorted array $arr^\prime = [1,2,3,4,5]$. The middle element and the median is 3.

Function Description

Complete the findMedian function in the editor below.

findMedian has the following parameter(s):

• *int arr[n]:* an unsorted array of integers

Returns

• int: the median of the array

Input Format

The first line contains the integer n, the size of arr.

The second line contains n space-separated integers arr[i]

Constraints

- $1 \le n \le 1000001$
- **n** is odd
- $-10000 \le arr[i] \le 10000$

Sample Input 0

```
7
0 1 2 4 6 5 3
```

Sample Output 0

3

Explanation 0

The sorted arr = [0, 1, 2, 3, 4, 5, 6]. It's middle element is at arr[3] = 3.

CANDIDATE ANSWER

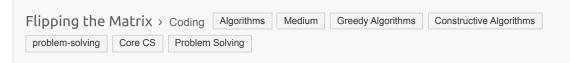
Language used: C

```
1 #include<stdio.h>
 2 int main()
 3 {
 4
      int size;
       scanf("%d",&size);
       int arr[size];
 8
       for( int i=0;i<size;i++)</pre>
            scanf("%d", &arr[i]);
       int temp;
       for( int i=0;i<(size-1);i++)</pre>
            for ( int j=0; j < size-1-i; j++)
              if(arr[j]> arr[j+1])
               temp = arr[j];
                arr[j] = arr[j+1];
                arr[j+1] = temp;
24
            }
```

5 }											
_	<pre>printf("%d", arr[size/2]);</pre>										
}											
TESTCASE	DIFFICULTY	TYPE		STATUS	SCORE	TIME TAKEN	MEMORY USED				
Testcase 1	Easy	Sample case		Success	0	0.0071 sec	7.25 KB				
Testcase 2	Easy	Hidden case		Success Success	35	0.0742 sec	7.38 KB				
Testcase 3	Easy	Hidden case		Success	35	0.0505 sec	7.38 KB				
Testcase 4	Easy	Hidden case	8	Terminated due to timeout	0	2.0033 sec	6.88 KB				
No Comments											



Score 90



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

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

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, $oldsymbol{n}$.
- 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 $2n \times 2n$ 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] \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

```
1 #include<stdio.h>
2 int main()
3 {
4
       int q;
      scanf("%d", &q);
       while(q--)
8
      {
          int n;
           scanf("%d", &n);
          int size = n*2;
           int mat[size][size];
14
           for( int i=0;i<size;i++)</pre>
               for( int j=0;j<size;j++)</pre>
                  scanf(<mark>"%d"</mark>, &mat[i][j]);
           }
           int sum =0;
           for ( int i=0; i < n; i++)
24
               for ( int j=0; j < n; j++)
                   int value[4];
                    value[0] = mat[i][j];
                    value[1] = mat[i][size-j-1];
                     value [2] = mat[size-i-1][j];
                    value[3] = mat[size-i-1][size-j-1];
                    int max= value[0];
                    for ( int k=1; k<4; k++)
                        if(value[k]>max)
                            max = value[k];
                    }
                    sum = sum + max;
43
           }
45
          printf("%d\n", sum);
47
48 }
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0066 sec	7 KB
Testcase 2	Easy	Hidden case	Success	15	0.0279 sec	7.13 KB
Testcase 3	Easy	Hidden case	Success	15	0.0354 sec	7.25 KB
Testcase 4	Easy	Hidden case	Success	15	0.031 sec	7.63 KB
Testcase 5	Easy	Hidden case	Success	15	0.0373 sec	7.25 KB
Testcase 6	Easy	Hidden case	Success	15	0.054 sec	7.38 KB

	Testcase 7	Easy	Hidden case	0	Success	15	0.0372 sec	7.63 KB
	Testcase 8	Easy	Sample case	Ø	Success	0	0.0074 sec	7.13 KB
Ν	o Comments							

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