

1. Good Numbers in a Grid

You're given a 2D array **grid** of dimensions **N x N** consisting of integers.

We define a number at **grid[i][j]** as **Good**, if and only if it has numbers at all of its 4 corners and is **strictly smaller** than the numbers at its 4 corners.

Find out the sum of all the **Good numbers** in the grid.

Look at the sample I/O and explanation for better understanding.

Input Format:

First line of input contains an integer **N**, denoting the dimension of the **grid**.

Next **N** lines contains **N** space separated integers in each line, denoting **grid** elements.

Output Format:

Print the number of **Good Numbers**.

Constraints:

$$1 \leq N \leq 20 - 1000 \leq \text{grid}[i][j] \leq 1000$$

Sample I/O:

Input 1:

```
4
11 10 5 34
25 2 26 9
3 10 22 47
11 6 12 3
```

Output 1:

12

Input 2:

```
3
4 5 6
1 2 3
7 8 9
```

Output 2:

2

Input 3:

```
3
1 2 3
4 5 6
7 8 9
```

Output 3:

0

Input 4:

```
5
76 32 56 27 85
40 19 52 31 70
59 19 98 49 94
76 65 85 96 28
99 36 21 77 32
```

Output 4:

69

Explanation:

For Input 1

2 is strictly smaller than all the elements at it's corners

| | | | |
|----|----|----|----|
| 11 | 10 | 5 | 34 |
| 25 | 2 | 26 | 9 |
| 3 | 10 | 22 | 47 |
| 11 | 6 | 12 | 3 |

10 is strictly smaller than all the elements at it's corners

| | | | |
|----|----|----|----|
| 11 | 10 | 5 | 34 |
| 25 | 2 | 26 | 9 |
| 3 | 10 | 22 | 47 |
| 11 | 6 | 12 | 3 |

26 is NOT strictly smaller than all the elements at it's corners

| | | | |
|----|----|----|----|
| 11 | 10 | 5 | 34 |
| 25 | 2 | 26 | 9 |
| 3 | 10 | 22 | 47 |
| 11 | 6 | 12 | 3 |

22 is NOT strictly smaller than all the elements at it's corners

| | | | |
|----|----|----|----|
| 11 | 10 | 5 | 34 |
| 25 | 2 | 26 | 9 |
| 3 | 10 | 22 | 47 |
| 11 | 6 | 12 | 3 |

So there are only two **Good Numbers** 2 and 10 and their sum is **12**.

Note that we only considered the **grid numbers for which there are elements present at all the 4 corners**.

2. Twin Primes in a Range

Two primes p_1 and p_2 are called Twin Primes, if $\text{abs}(p_1 - p_2) = 2$.

Informally, if the difference between two primes p_1 and p_2 is exactly 2, then they are called Twin Primes.

Examples:

(3, 5)

(5, 7)

(11, 13)

(17, 19)

Given two numbers **A** and **B**, print all Twin Primes (in pairs) between **A** and **B**.

Note:

1. Always print a twin prime pair in a way such that first element of pair will be less than second element in the pair.
2. You should only print a twin prime pair, if and only if both numbers in the pair are less than or equal to the upperbound
3. For example if input is 1 and 12, you cannot print the prime pair 11 and 13, since 13 exceeds the upper bound of input.

See the Sample I/O for more clarity.

Input Format:

The only line of input contains two numbers **A** and **B**.

Output Format:

All twin prime pairs present between A and B (inclusive). Print each pair in a separate line.

Constraints:

$1 \leq A, B \leq 10000$

Sample I/O:

Input 1:

1 20

Output 1:

3 5

5 7

11 13

17 19

Input 2:

100 200

Output 2:

101 103

107 109

137 139

149 151

179 181

191 193

197 199

Input 3:

1000 1488

Output 3:

1019 1021

1031 1033

1049 1051

1061 1063

1091 1093

1151 1153

1229 1231

1277 1279

1289 1291

1301 1303

1319 1321

1427 1429

1451 1453

1481 1483