

Diamond Sequence

Consider a square $N \times N$ matrix for odd $N > 2$ whose elements are initialized with values $1-N^2$ as follows.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Find the diamond whose corners are in the middle row of the left and right columns and the middle column of the top and bottom rows.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

What is the sequence of values that traverse the diamond clockwise starting in the top row?

Write a function

```
vector<int> diamondsequence(vector<vector<int>> &m)
```

where

m is the $N \times N$ matrix with odd $N > 2$

and returns the diamond sequence if m is an $N \times N$ matrix with odd $N > 2$, otherwise returns the empty sequence.

File you must submit: `soln_func.cc`

Examples:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Returns: 3 9 15 19 23 17 11 7

1	2	3
4	5	6
7	8	9

Returns: 2 6 8 4

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Returns: empty sequence

Explanation: N is even.

1	2	3	4
5	6	7	8
9	10	11	12

Returns: empty sequence

Explanation: m is not a square.