



Horse Path

Java May'19 Advanced Practice 2 - 2 days 03:33:52

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Tags

Arrays

↑ Difficulty

Intermediate

✓ Allowed languages

C#, java, JavaScript

You know the horse Koci? He likes to iterate matrices.

Since he wants to be more than a regular horse, he iterates the matrices using the moves of the knights in chess as follows:

1. At each turn, he can jump to one of the 8 horse moves. He tries to jump to the topmost, leftmost cell of of these cells.
2. If all the 8 positions are taken (he already jumped there), he restarts him jumping from the leftmost, topmost free cell
3. At each turn he leaves a number, to indicate he has been there.

By given the size of the matrix, print the cells of Koci.

Input

Read from the standard input

- On the single line of the input, find the number **N**
 - The size of the matrix

Output

Print to the standard output

- On **N** lines, print **N** cells with the numbers of Koci's iteration

Sample tests

Input



4

Copy

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Output

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

Copy

Input

5

Copy

Output

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

Copy

Input

3

Copy

Output

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

Copy

? Clarifications

No clarifications have been made at this time.



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