## Horse Path

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**

Copy

4

#### **Output**

Copy

1 4 7 10

8 11 2 5

3 6 9 12

14 13 15 16

#### **Input**

Copy

5

#### **Output**

Copy

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

#### **Input**

Copy

3

#### **Output**

Copy

1 4 7

6 9 2

3 8 5