

# Rotating Square

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There is an  $n \times n$  square of integers, which could look like this.

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

Of course, this is another magic square. If I asked it to rotate 90, 180, 270 degrees clockwise around the lower left corner (the coordinate (4,1)), the result will look like these:

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

90 degrees

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

180 degrees

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

270 degrees

If it is rotated by 0 or 360 degrees, it becomes the same as the original layout.

## Task

Given a square of integer and degree of clockwise rotation, you are to print a rotated square around the lower left corner.

## Input

The first line has an integer  $n$  ( $0 < n \leq 500$ ). The following  $n$  lines contain values of cells in the square. At line  $i$  of these  $n$  lines, it contains members of row  $i$ . Each line has  $n$  nonnegative integers separated by a blank. Each integer is less than 2,000,000,000. The last line has an integer  $d$  ( $0 \leq d \leq 9999$ ).

## Output

There should be  $n$  lines of rotated square in the same format as input. If degree is not the right angle of 0,90,180,270 degrees print "No output".

*Example 1*

Input

4  
1 5 9 13  
2 6 10 14  
3 7 11 15  
4 8 12 16  
180

Output

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

Input

3  
10 11 12  
13 14 15  
16 17 18  
270

Output

12 15 18  
11 14 17  
10 13 16

Input

3  
10 11 12  
13 14 15  
16 17 18  
271

Output

No output