

10741 Magic Cube

An $N \times N \times N$ magic cube is a cube composed of N^3 consecutive integers (usually 1 through N^3) arranged in such way that each row, each column, each main diagonal of the square cross sections, and each of the four triagonals containing N integers adds up to the same sum. Though it is not easy to construct a magic cube when N is even, there is a very simple approach for constructing one when N is odd.

To construct an odd order magic cube, start by placing the integer 1 at the center of the bottom layer of the cube (Fig. 2). Then proceed diagonally down to the right along the central vertical square cross section (the shaded vertical plane in Fig. 2), and keep placing consecutive integers in every empty location you visit. When you run off the bottom of the plane, you reenter at the top. When you run off the right-hand side, you reenter on the left-hand side.

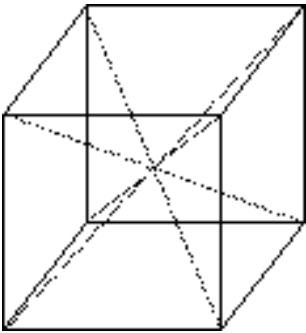


Fig. 1: Triagonals(dotted lines)

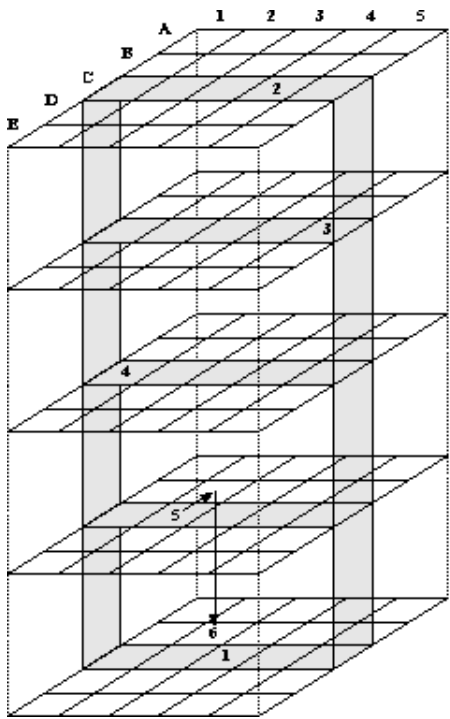


Fig. 2: The “one back and one down” move

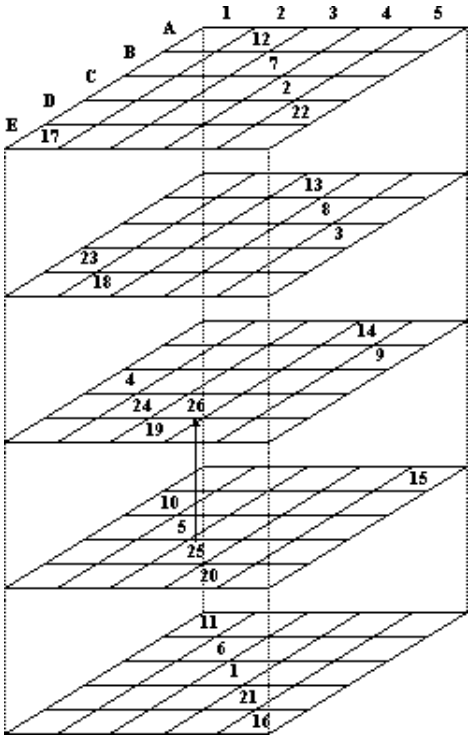
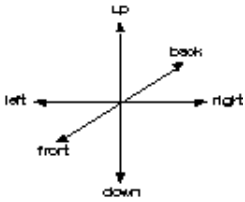


Fig. 3: The “up one” move

Every time you find a non-empty location on your way, just go back one layer and down one, as shown in Fig. 2 for the move from 5 to 6. Continue to proceed diagonally in the new plane, repeating the “one back and one down” step as required. If the “one back and one down” step does not work, i.e., you still arrive at a non-empty location, just go up one layer and continue moving diagonally. The “up one” step is shown in Fig. 3 for the move from 25 to 26.

Input

The input may contain multiple test cases. Each line of the input contains an odd integer N ($1 \leq N \leq 25$) giving the dimension of the cube.

Input is terminated by a zero. This zero should not be processed.

Output

For each test case in the input output the corresponding magic cube as follows. First print the numbers in the top layer of the cube, followed by numbers in the second layer, then the numbers in the third layer, and so on. For each layer first print the numbers in row **A** (see Fig. 2 and Fig. 3) on one line from left to right (A_1 to A_N), followed by the numbers in row **B** on the next line, then row **C** on the third line, and so on. Print each number right aligned on a field of width 5, and separate two successive such fields on the same line by a white space character. Print a blank line between two successive layers.

Separate the output for every two successive test cases by a blank line.

Sample Input

```
3
5
0
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Sample Output

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21      5      16
13     27      2
 8     10     24

17     19      6
 3     14     25
22      9     11

 4     18     20
26      1     15
12     23      7

110     12     44     71     78
 98    105      7     39     66
 61     93    125      2     34
 29     56     88    120     22
 17     49     51     83    115

 79    106     13     45     72
 67     99    101      8     40
 35     62     94    121      3
 23     30     57     89    116
111     18     50     52     84

 73     80    107     14     41
 36     68    100    102      9
  4     31     63     95    122
117     24     26     58     90
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85	112	19	46	53
42	74	76	108	15
10	37	69	96	103
123	5	32	64	91
86	118	25	27	59
54	81	113	20	47
11	43	75	77	109
104	6	38	70	97
92	124	1	33	65
60	87	119	21	28
48	55	82	114	16