Cool permutations P51435_en

In this problem, we will say that a permutation is cool is it does not have two adjacent consecutive numbers. Given n, print all the cool permutations of $\{0, \ldots, n-1\}$.

Input

input consists of several cases, each with an n between 1 and 9.

Output

For every case, print in lexicographical order all the cool permutations of $\{0, \ldots, n-1\}$. Print a line with 20 asterisks at the end of every case.

Sample input 1

```
1
2
3
4
5
```

Sample output 1

```
0
********************
********************
********************
1 3 0 2
2 0 3 1
********************
0 2 4 1 3
0 3 1 4 2
1 3 0 2 4
1 3 0 4 2
1 4 2 0 3
2 0 3 1 4
2 0 4 1 3
2 4 0 3 1
2 4 1 3 0
3 0 2 4 1
3 1 4 0 2
3 1 4 2 0
4 1 3 0 2
4 2 0 3 1
********************
```

Problem information

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