Problem M
Master Chef

Hoang Yen has recently won the television show Master Chef Vietnam. She decided to throw a big party to celebrate the title with her friends.

Hoang Yen will prepare her wonderful recipes all by herself. In order to show as many recipes as possible, she decided:

- Each table will be served a menu of exactly n dishes.
- Each dish will not appear more than n times.
- For each pair of tables, there is **exactly** 1 common dish.

Given an integer n where $n-1$ has at most 2 positive divisors, what is the maximal number of tables she can serve?

Input

The input consists of a single integer n ($1 \leq n \leq 100$). It is guaranteed that $n-1$ has at most 2 positive divisors.

Output

- The first line contains an integer t — the maximal number of tables.
- In the next t lines, the i-th one contains n distinct integers $d_{i,1}, d_{i,2}, \cdots, d_{i,n}$ describing n dishes for table i ($1 \leq d_{i,j}$). Dishes should be numbered consecutively from 1.

Sample Input 1	Sample Output 1
2	3 1 2 2 3 3 1