

C. Magic Odd Square

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Find an $n \times n$ matrix with different numbers from 1 to n^2 , so the sum in each row, column and both main diagonals are odd.

Input

The only line contains odd integer n ($1 \leq n \leq 49$).

Output

Print n lines with n integers. All the integers should be different and from 1 to n^2 . The sum in each row, column and both main diagonals should be odd.

Examples

input
1
output
1

input
3
output
2 1 4 3 5 7 6 9 8