D. Optimal Number Permutation

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

You have array a that contains all integers from 1 to n twice. You can arbitrary permute any numbers in a.

Let number i be in positions x_i, y_i ($x_i < y_i$) in the permuted array a. Let's define the value $d_i = y_i - x_i$ — the distance between the positions of the number i. Permute the numbers in array a to minimize the value of the sum .

Input

The only line contains integer n ($1 \le n \le 5 \cdot 10^5$).

Output

Print $2n$ integers — the permuted array a that minimizes the value of the sum s.

Examples

input
2
output
1 1 2 2

input
1
output
1 1