

Problem C. Permutations

Time limit 1000 ms

Mem limit 524288 kB

A permutation of integers $1, 2, \dots, n$ is called *beautiful* if there are no adjacent elements whose difference is 1.

Given n , construct a beautiful permutation if such a permutation exists.

Input

The only input line contains an integer n .

Output

Print a beautiful permutation of integers $1, 2, \dots, n$. If there are several solutions, you may print any of them. If there are no solutions, print "NO SOLUTION".

Constraints

- $1 \leq n \leq 10^6$

Example 1

Input:

5

Output:

4 2 5 3 1

Example 2

Input:

3

Output:

NO SOLUTION