Problem A. Permutations

Time limit   1000 ms
Mem limit   524288 kB

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

Constraints

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

Example 1

Input	Output
5	4 2 5 3 1

Example 2

Input	Output
3	NO SOLUTION