Problem C. 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

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

Example 1

Input:

```
5
```

Output:

```
4 2 5 3 1
```

Example 2

Input:

```
3
```

Output:

```
NO SOLUTION
```