A. Little Elephant and Function

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The Little Elephant enjoys recursive functions.

This time he enjoys the sorting function. Let a is a permutation of an integers from 1 to n, inclusive, and a_i denotes the i-th element of the permutation. The Little Elephant's recursive function $f(x)$, that sorts the first x permutation's elements, works as follows:

- If $x = 1$, exit the function.
- Otherwise, call $f(x - 1)$, and then make $swap(a_{x-1}, a_x)$ (swap the x-th and $(x - 1)$-th elements of a).

The Little Elephant's teacher believes that this function does not work correctly. But that-be do not get an F, the Little Elephant wants to show the performance of its function. Help him, find a permutation of numbers from 1 to n, such that after performing the Little Elephant's function (that is call $f(n)$), the permutation will be sorted in ascending order.

Input

A single line contains integer n $(1 \le n \le 1000)$ — the size of permutation.

Output

In a single line print n distinct integers from 1 to n — the required permutation. Numbers in a line should be separated by spaces.

It is guaranteed that the answer exists.

Examples

input
1
output
1

input
2
output
2 1