

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 ($1 \leq n \leq 1000$) — 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