A Permutation Problem 2

Time limit: 2.0s **Memory limit:** 64M

Given 2 integers N and K, find the lexicographically largest permutation of $1, 2, \ldots, N$ such that it takes exactly K swaps (between any two elements) to most efficiently sort it.

We define the most efficient sorting of an array of integers as one where the number of swaps is minimized.

The input are generated such that an answer is guaranteed to exist.

Input Specification

The first and only line will contain 2 integers, N ($1 \leq N \leq 10^6$), K ($0 \leq K \leq 10^6$).

Output Specification

On one line, output the lexicographically greatest array that satisfies the conditions outlined in the problem statement.

Sample Input

```
4 3
```

Sample Output

```
4 3 1 2
```