From one to en (3)   P69756_en

Write a program that prints all the permutations of $\{1, \ldots, n\}$ with k inversions, for a given n and k. An inversion is a pair of elements x and y such that $x > y$ and such that x appears before y in the permutation.

Input

Input consists of two natural numbers n and k, such that $n \geq 1$ and $0 \leq k \leq n(n-1)/2$.

Output

Print all the permutations of $\{1, \ldots, n\}$ with k inversions.

Information about the checker

You can print the solutions to this exercise in any order.

Hint

Here, a very simple algorithm may be too slow.

Sample input 1

```
5 2
```

Sample output 1

```
(1,2,4,5,3)
(1,2,5,3,4)
(1,3,2,5,4)
(1,3,4,2,5)
(1,4,2,3,5)
(2,1,3,5,4)
(2,1,4,3,5)
(2,3,1,4,5)
(3,1,2,4,5)
```

Sample input 2

```
10 45
```

Sample output 2

```
(10,9,8,7,6,5,4,3,2,1)
```

Problem information

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