Permutations and cycles (1) P93873_en

Write a program to print all the permutations of $\{1, \ldots, n\}$ with exactly k cycles, where $1 \leq k \leq n$. For exemple, consider the permutation $(4, 3, 2, 5, 1, 7, 6)$. At position 1 there is a 4, at position 4 there is a 5, and at position 5 there is a 1. Therefore, one of the cycles is $1 \to 4 \to 5 \to 1$. The other two cycles are $2 \to 3 \to 2$ and $6 \to 7 \to 6$. The permutation $(3, 2, 1)$ has the two cycles $1 \to 3 \to 1$ and $2 \to 2$, and the permutation $(3, 4, 5, 6, 7, 1, 2)$ only has the cycle $1 \to 3 \to 5 \to 7 \to 2 \to 4 \to 6 \to 1$.

Input

Input consists of n and k, with $1 \leq k \leq n$.

Output

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

Information about the checker

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

Hint

A possible program does not build the permutations consecutively from left to right, but jumping over the solution, using a function

void *f*(**int** *i*, **int** *ini*, **int** *cells*, **int** *cycles*);

where @i@ is the next cell to fill, @ini@ is where the current cycle—still to be closed—starts, @cells@ is the number of cells still free, and @cycles@ is the number of cycles yet to be created.

Sample input 1

```
3 1
```

Sample output 1

```
(2, 3, 1)
(3, 1, 2)
```

Sample input 2

```
3 2
```

Sample output 2

```
(2, 1, 3)
(1, 3, 2)
(3, 2, 1)
```

Sample input 3

```
3 3
```

Sample output 3

```
(1, 2, 3)
```

Problem information

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