Balanced sequences X40596_en

A sequence of numbers is *d-balanced* if the absolute value of the difference between any two consecutive numbers is at most d. Formally $(x_1, x_2, \ldots, x_n)$ is d-balanced if for all $1 \leq i < n$ it holds that $|x_i - x_{i+1}| \leq d$.
Write a program that, given an integer $n \geq 1$ and an integer $d \geq 0$, writes all d-balanced sequences that can be obtained by reordering the sequence $(1, 2, \ldots, n)$.

Input

The input consists of an integer $n \geq 1$ followed by another integer $d \geq 0$.

Output

Write all d-balanced sequences that can be obtained by reordering the sequence $(1, 2, \ldots, n)$. You can write the sequences in any order.

Sample input 1

```
3 1
```

Sample output 1

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

Sample input 2

```
4 2
```

Sample output 2

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

Sample input 3

```
1 0
```

Sample output 3

```
(1)
```

Problem information

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