Sequences with no wells — X41088_en

A sequence of numbers *has a well* if it contains three consecutive numbers such that that the endpoints add up more than twice the one in the middle.
Formally, $(x_1, x_2, \ldots, x_n)$ has a well if it exists at least an i with $1 \leq i < n-1$ such that $x_i + x_{i+2} > 2 \cdot x_{i+1}$.
Write a program that, given an integer $n \geq 1$, writes all sequences with no well that can be obtained by reordering the sequence $(1, 2, \ldots, n)$.

Input

The input consists of an integer $n \geq 1$.

Output

Write all sequences with no well that can be obtained by reordering the sequence $(1, 2, \ldots, n)$.
You can write the sequences in any order.

Sample input 1

```
3
```

Sample output 1

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

Sample input 2

```
2
```

Sample output 2

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

Sample input 3

```
4
```

Sample output 3

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

Sample input 4

```
1
```

Sample output 4

```
(1)
```

Problem information

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