
No wells**P44291_en**Dinovè Concurs de Programació de la UPC - Semifinal (2021-06-23)

A sequence of numbers has a well if it contains three consecutive numbers such that the endpoints add up more than twice the one in the middle. Formally, (x_1, x_2, \dots, x_n) has a well if it exists at least an i with $2 \leq i \leq n - 1$ such that $x_{i-1} + x_{i+1} > 2x_i$.

Write a program that, given an integer n , prints all the sequences with no wells that can be obtained by reordering the sequence $(1, 2, \dots, n)$.

Input

Input consists of several cases, each one with an n between 1 and 10^5 .

Output

For every n , print all the permutations with no wells in lexicographical order. Print a line with 10 dashes at the end of every case.

Sample input

```
2
4
7
1
```

Sample output

```
(1, 2)
(2, 1)
-----
(1, 2, 3, 4)
(1, 3, 4, 2)
(1, 4, 3, 2)
(2, 3, 4, 1)
(2, 4, 3, 1)
(4, 3, 2, 1)
-----
(1, 2, 3, 4, 5, 6, 7)
(1, 3, 4, 5, 6, 7, 2)
(1, 3, 5, 7, 6, 4, 2)
(1, 7, 6, 5, 4, 3, 2)
(2, 3, 4, 5, 6, 7, 1)
(2, 4, 6, 7, 5, 3, 1)
(2, 7, 6, 5, 4, 3, 1)
(7, 6, 5, 4, 3, 2, 1)
-----
(1)
-----
```

Problem information

Author : Albert Oliveras

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