7621 - LAB 05

Instructions

1. Access the auto-grader at https://c200.luddy.indiana.edu
2. Please write the code for the problems in python language
3. The code should be readable with variables named meaningfully
4. Plagiarism is unacceptable and we have ways to find it, so do not do it
5. Don't change the function signature (name of the function and number and types of arguments) provided in this file.
6. Once you pass all the tests on the auto grader, show your work to the teaching assistant

Problem

Question

Once upon a time, in the land of Numeria, young mathematician Theo stumbled upon an ancient algorithm. Determined to unravel its mysteries, he applied it to a sorted list of integers from 1 to n.
With each iteration, Theo deftly removed numbers, first removing every other number from left to right, then repeating the process from right to left. With each iteration, the list grew smaller and smaller until only a single number remained.
Given the integer n, return the last number that remains in the list.

Test cases

Example 1:

```
Input: 9
Output: 6
Explanation: [1, 2, 3, 4, 5, 6, 7, 8, 9] -> [2, 4, 6, 8] -> [2, 6] -> [6]
```

Example 2:

```
Input: 11
Output: 8
Explanation: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11] -> [2, 4, 6, 8, 10] -> [4, 8] -> [8]
```

Constraints

- Use recursion to solve the question.

Function signature

```
def leftRightRightLeft(n: int) -> int:
    pass
```