

Multiplication Table

Time: 1 sec / Memory: 256 MB

Problem Statement

Find the median value when the numbers in an $n \times n$ multiplication table are sorted in increasing order. It is assumed that n is odd.

For example, the 3×3 multiplication table is as follows:

```
1 2 3
2 4 6
3 6 9
```

The numbers in increasing order are $[1, 2, 2, 3, 3, 4, 6, 6, 9]$, so the answer is 3.

Hint: Consider the **allowable time complexity** of the algorithms for this problem under the given time limit.

Input

The first line contains an integer n , where $1 \leq n \leq 10^6$ and n is odd.

Output

Print the median value of the $n \times n$ multiplication table.

Example

Input:

3

Output:

3