Halfway

A friend of yours has written a program that compares every pair of... something. With **n** items, it works like this: First, it prints a 1, and it compares item 1 to items 2, 3, 4, ..., **n**. It then prints 2, and compares item 2 to items 3, 4, 5, ..., **n**. It continues like that until every pair has been compared exactly once. If it compares item **x** to item **y**, it will not later compare item **y** to item **x**. It will not compare any item to itself.

Your friend wants to know when his program is halfway done. Assuming that all comparisons take the same amount of time, what will be the last number printed when the program is exactly halfway done? For an odd number of comparisons, this is when it's doing the middle comparison. For an even number, it's the first of the two middle comparisons. Note that since the earlier items have more comparisons than the later items, the answer is **not** simply **n**/2.

Input

Each input will consist of a single test case. Note that your program may be run multiple times on different inputs. Each test case will consist of a single line with single integer **n** ($2 \le n \le 10^9$), indicating the number of items your friend is comparing.

Output

Output a single integer representing the last number your friend's program prints before it performs the halfway comparison.

Sample Input	Sample Output
4	1
7	2
10	3
1919	562
290976843	85225144