

## Problem A. Arithmetics Game

Input file:            standard input  
Output file:          standard output  
Time limit:           2 seconds  
Memory limit:        1024 mebibytes

*This is an interactive problem*

At the beginning of the game,  $2n$  consecutive integers are written on board. Alice and Bob make their moves in a turn with Alice starting first. The move consists of erasing one of integers that still are on board. After  $2n - 2$  turns, there will remain only two integers. If their GCD is not equal to 1, then Alice wins, otherwise Bob wins.

Bob wants to beat Alice in this game, and asks you to help him with the program that can play for him.

### Interaction Protocol

At the beginning, the jury program tells you one integer  $n$  ( $1 \leq n \leq 10^5$ ), that defines the size of array.

Initially, at the board are  $2n$  integers.

Then  $n - 1$  times the following two actions happen: the jury program prints one integer between 1 and  $2n$  — the integer that is erased by Alice, and your program shall answer with some non-erased integer that is erased by Bob. Attempt to erase already erased integer immediately causes Wrong Answer error.

If the greater common divisor of the remaining two integers is 1, you win. Otherwise you lose and receive Wrong Answer.

### Examples

standard input	standard output
2	2
4	
5	6
5	4
9	2
3	1
8	

### Note

Do not forget to end each your turn with end-of-line character and to flush the buffer after it.