Goals

You will be given M values. Each value is an integer N. You must print the next highest odd number unless N is already odd then print N

Input

Line 1: An integer M for the number of integer values that follow.

Next M Lines: M number of integer values.

Output

M Lines: M integers that if integer N at line M of input is odd then print N otherwise print the next highest odd integer.

Constraint

$$1 \le M \le 100$$
 $-10000 \le N \le 10000$

Example

Input

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10
-64
71
```

-98			
-60			
- 18			
41			
88			
- 2			
-24			
63			

Output

