Problem ID: localetiquette

Time travelling is exhausting, so regular breaks are essential for a good time travel experience. To combine your break with a new adventure, you decide to grab your next bite in medieval England.

You visit the best pub in the historic city of Oxford and sit together with some knights. Being unfamiliar with the local etiquette is very embarrassing, so you tell them that you are a merchant from the South and ask if they can show you how to eat appropriately. A bit confused, but always helpful, the knights agree and show you the basics of the regional Oxford etiquette. The biggest difference between the local etiquette and the one in the South – at least according to the knights – is that after eating the meat from the bones, you don't put the bones back on the table, but just throw them on the floor backwards. You think that this is a bit disgusting, but don't want to question it any further, so you behave as required.

After some great dining with the knights, they tell you of another custom of the English knights of Oxford. Instead of everybody paying for themselves, they play a betting game to decide who will have to pay the bill tonight. In this game, everyone has to guess the number of bones on the floor that are left over from the meal. The one with the worst bet – meaning the one which has the highest absolute difference to the correct number – has to pay. To prevent draws as much as possible, all guesses must be distinct integers. If a draw occurs nonetheless, the involved bidders split the bill. Sometimes the knights are very hungry and sometimes they do not eat anything, so the actual number of bones on the floor may be any positive integer or even 0. As you are the guest and the knights are really honourable, everyone else gives their guess before you give yours.

You have read some horrifying stories about English knights and suspect that the knights are trying to trick you into paying. Is there a safe guess you can place that ensures you will not have to pay at all, regardless of the number of bones on the floor?

Input

The input consists of:
- One line with an integer n ($1 \le n \le 1\,000$), the number of knights.
- One line with n integers $a_1, \ldots, a_n$ ($0 \le a_i \le 10^9$ for each i), the knights' guesses.

Output

Output any number that constitutes a safe guess, or `impossible` if there is no such number. Only integers between 0 and 10^9 (both inclusive) are valid guesses.

Sample Input 1

```
3
1 4 2
```

Sample Output 1

```
3
```

Sample Input 2

```
1
4
```

Sample Output 2

```
impossible
```

Sample Input 3

```
2
0 10
```

Sample Output 3

```
7
```