

Left Nim

Winter Workshops, Day 2, Available memory 256 MB

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Valeria and Emilio are playing a game called *Left Nim*. The rules are as follows:

- There are n piles of stones on the table.
- Players move in turns, Valeria starts.
- In each turn, the player has to take nonzero number of stones from the **leftmost** pile.
- The player who can't make a move loses.

Your task is to determine the winner if both players play optimally.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq a_i \leq 10^9$
- Piles are listed in order from left to right.

Input

```
n
a1 a2 ... an
```

Output

In the first line of the standard output, write down the name of winner.

Examples

Input	Output
2 3 4	Valeria
3 1 5 2	Emilio
4 2 1 2 1	Valeria

Scoring

Subtask	Constraints	Points
1	$n \leq 2$	20
2	$n \leq 5, a_i \leq 5$	20
3	$n \leq 1000$	20
4	no additional constraints	40