Problem I. Impossible

Source file name:	Impossible.c, Impossible.cpp, Impossible.java, Impossible.py
Input:	`standard input`
Output:	`standard output`
Author(s):	`Milton Jesús Vera Contreras - UFPS (Professor)`
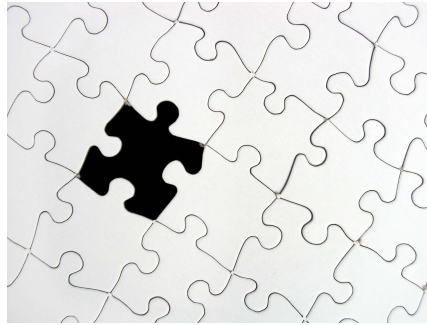
Two mathematicians and one engineer are auditing bank ATM transactions. Each transaction is identified with a unique ID number that is consecutive. They have the unordered transactions list, but one ID number is missing. Mathematicians say that it is not possible find the missing ID number. The engineer says that there are cases that can be solved. May you help them?

Input

Several test cases. Each test case starts with a number $10^3 \le n \le 10^6$, which corresponds to the number of transactions. Then follows a list of $n-1$ ID numbers x_i, $10^5 \le x_i \le 10^9$. The ID numbers are consecutive and unordered, there are not duplicate numbers and one number is missing.

Output

For each test case print the ID number of transaction x_i that is missing or $IMPOSSIBLE$ if the mathematicians are correct and "it is not possible find the missing ID number".

Examples

Input	Output
10 123465 123460 123459 123457 123458 123463 123461 123464 123456	123462
11 789065 789060 789059 789057 789058 789062 789063 789061 789064 789056	IMPOSSIBLE

Note: Due to the amount of data, an example is used with a number n smaller.