Problem E. Four XOR

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

Given a sequence $A_{1\ldots n}$ of distinct integers, you need to answer whether there exist four indices x, y, z, w such that $1 \le x < y < z < w \le n$ and $A_x \oplus A_y \oplus A_z \oplus A_w = 0$.

Recall that $x \oplus y$ means the bitwise exclusive-or between x and y, sometimes expressed as x xor y.

Input

The first line contains a single integer n ($4 \le n \le 10^5$).

The second line contains n integers $A_{1\ldots n}$ ($0 \le A_i \le 10^5$). It is guaranteed that all A_i are distinct.

Output

Output "`Yes`" if there are four indices satisfying the conditions, or "`No`" otherwise.

Examples

standard input	standard output
5 1 2 3 4 5	Yes
5 1 2 4 8 16	No
5 1 3 4 8 9	No