

B. Tell Your World

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Connect the countless points with lines, till we reach the faraway yonder.

There are n points on a coordinate plane, the i -th of which being (i, y_i) .

Determine whether it's possible to draw two parallel and non-overlapping lines, such that every point in the set lies on **exactly one** of them, and each of them passes through **at least one** point in the set.

Input

The first line of input contains a positive integer n ($3 \leq n \leq 1\,000$) — the number of points.

The second line contains n space-separated integers y_1, y_2, \dots, y_n ($-10^9 \leq y_i \leq 10^9$) — the vertical coordinates of each point.

Output

Output "Yes" (without quotes) if it's possible to fulfill the requirements, and "No" otherwise.

You can print each letter in any case (upper or lower).

Examples

input
5 7 5 8 6 9
output
Yes

input
5 -1 -2 0 0 -5
output
No

input
5 5 4 3 2 1
output
No

input
5 1000000000 0 0 0 0
output
Yes

Note

In the first example, there are five points: $(1, 7)$, $(2, 5)$, $(3, 8)$, $(4, 6)$ and $(5, 9)$. It's possible to draw a line that passes through points 1, 3, 5, and another one that passes through points 2, 4 and is parallel to the first one.

In the second example, while it's possible to draw two lines that cover all points, they cannot be made parallel.

In the third example, it's impossible to satisfy both requirements at the same time.