PROBLEMS   SUBMIT   STATUS   STANDINGS   CUSTOM TEST

A. Dima and Continuous Line

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Dima and Seryozha live in an ordinary dormitory room for two. One day Dima had a date with his girl and he asked Seryozha to leave the room. As a compensation, Seryozha made Dima do his homework.

The teacher gave Seryozha the coordinates of n distinct points on the abscissa axis and asked to consecutively connect them by semi-circus in a certain order: first connect the first point with the second one, then connect the second point with the third one, then the third one with the fourth one and so on to the n-th point. Two points with coordinates $(x_1, 0)$ and $(x_2, 0)$ should be connected by a semi-circle that passes above the abscissa axis with the diameter that coincides with the segment between points. Seryozha needs to find out if the line on the picture intersects itself. For clarifications, see the picture Seryozha showed to Dima (the left picture has self-intersections, the right picture doesn't have any).

Seryozha is not a small boy, so the coordinates of the points can be rather large. Help Dima cope with the problem.

Input

The first line contains a single integer n ($1 \le n \le 10^3$). The second line contains n distinct integers $x_1, x_2, ..., x_n$ ($-10^6 \le x_i \le 10^6$) — the i-th point has coordinates $(x_i, 0)$. The points are not necessarily sorted by their x coordinate.

Output

In the single line print "yes" (without the quotes), if the line has self-intersections. Otherwise, print "no" (without the quotes).

Examples

input

    4
    0 10 5 15

output

    yes

input

    4
    0 15 5 10

output

    no

Note

The first test from the statement is on the picture to the left, the second test is on the picture to the right.

Codeforces Round #208 (Div. 2)
Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest]

→ Problem tags

[brute force] [implementation]

No tag edit access

→ Contest materials

- Announcement   ✕
- Tutorial   ✕