HOME   TOP   CONTESTS   GYM   PROBLEMSET   GROUPS   RATING   API   HELP   LYFT 🏆   MAILRU CUP 🏆   CALENDAR

PROBLEMS   SUBMIT   STATUS   STANDINGS   CUSTOM TEST

B. Mahmoud and a Triangle

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

Mahmoud has n line segments, the i-th of them has length a_i. Ehab challenged him to use **exactly 3** line segments to form a non-degenerate triangle. Mahmoud doesn't accept challenges unless he is sure he can win, so he asked you to tell him if he should accept the challenge. Given the lengths of the line segments, check if he can choose exactly 3 of them to form a non-degenerate triangle.

Mahmoud should use exactly 3 line segments, he can't concatenate two line segments or change any length. A non-degenerate triangle is a triangle with positive area.
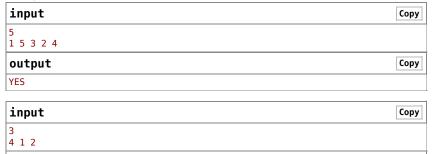
Input

The first line contains single integer n ($3 \le n \le 10^5$) — the number of line segments Mahmoud has.

The second line contains n integers a_1, a_2, ..., a_n ($1 \le a_i \le 10^9$) — the lengths of line segments Mahmoud has.

Output

In the only line print "YES" if he can choose exactly three line segments and form a non-degenerate triangle with them, and "NO" otherwise.

Examples

input	Copy
5 1 5 3 2 4	

output	Copy
YES	

input	Copy
3 4 1 2	

output	Copy
NO	

Note

For the first example, he can use line segments with lengths 2, 4 and 5 to form a non-degenerate triangle.

Codeforces Round #396 (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

constructive algorithms   geometry   greedy

math   number theory   sortings

No tag edit access

→ Contest materials

- Announcement   ✕
- Tutorial   ✕

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