B. Mahmoud and a Triangle

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 ($3 \leq n \leq 10^5$) — the number of line segments Mahmoud has.

The second line contains n integers $a_1, a_2, ..., a_n$ ($1 \leq a_i \leq 10^9$) — 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
5 1 5 3 2 4

output
YES

input
3 4 1 2

output
NO

Note

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