

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

The second line contains n integers a_1, a_2, \dots, 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	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.

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→ About Group



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→ Group Contests

Sheet #10 (General Hard)

Sheet #9 (General medium)

Sheet #8 (General easy)

Sheet #7 (Recursion)

Sheet #6 (Math - Geometry)

Sheet #5 (Functions)

Sheet #4 (Strings)

Contest #3.1

Sheet #3 (Arrays)

Contest #2

Sheet #2 (Loops)

Contest #1

Sheet #1 (Data type - Conditions)

Sheet #9 (General medium)

Finished

Practice

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→ About Time Scaling

This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the [link](#).