A. Greed

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

Jafar has n cans of cola. Each can is described by two integers: remaining volume of cola a_i and can's capacity b_i ($a_i \le b_i$).

Jafar has decided to pour all remaining cola into just 2 cans, determine if he can do this or not!

Input

The first line of the input contains one integer n ($2 \le n \le 100\,000$) — number of cola cans.

The second line contains n space-separated integers $a_1, a_2, ..., a_n$ ($0 \le a_i \le 10^9$) — volume of remaining cola in cans.

The third line contains n space-separated integers that $b_1, b_2, ..., b_n$ ($a_i \le b_i \le 10^9$) — capacities of the cans.

Output

Print "YES" (without quotes) if it is possible to pour all remaining cola in 2 cans. Otherwise print "NO" (without quotes).

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

Examples

input
2 3 5 3 6

output
YES

input
3 6 8 9 6 10 12

output
NO

input
5 0 0 5 0 0 1 1 8 10 5

output
YES

input
4 4 1 0 3 5 2 2 3

output
YES

Note

In the first sample, there are already 2 cans, so the answer is "YES".