

B. More Is Less

time limit per test: 2 s.
memory limit per test: 1024 MB

Ian is playing the Elimination Game. In this game, there are n pebbles, the i -th of which has weight i .

Ian has access to two machines: a minimizer and a maximizer. When two pebbles are given to the minimizer, it returns the lighter pebble. Conversely, when two pebbles are given to the maximizer, it returns the heavier one.

The game consists of $n - 1$ rounds. In each round, Ian has to select two pebbles and send them to either the minimizer or the maximizer. After the machine returns one of the pebbles, he takes the pebble and proceeds to the next round. Due to wear and tear, he can only use the minimizer at most a times and the maximizer at most b times throughout the game.

It is apparent that no matter how Ian operates the machines in each round, after all $n - 1$ rounds, only one pebble will remain. Ian's favorite number is x , so he wants the pebble with weight x to be the remaining one. Can Ian reach his goal if he operates the machines in each round wisely?

Input

The first line of the input contains an integer t ($1 \leq t \leq 5 \cdot 10^4$), denoting the number of test cases. The description of the test cases follows.

The only line of each test case contains four integers n, a, b, x ($1 \leq n \leq 1000$, $0 \leq a, b \leq n - 1$, $a + b = n - 1$, $1 \leq x \leq n$) — the number of pebbles, the usage limit of the minimizer, the usage limit of the maximizer, and Ian's favorite number, respectively.

Output

For each test case, if it is possible for Ian to reach his goal, print "Yes". Otherwise, print "No".

Examples

input	Copy
2 5 2 2 4 10 0 9 7	
output	Copy
Yes No	

Micro1 Contest #9

Finished

Practice



→ Languages

The following languages are only available languages for the problems from the contest

Micro1 Contest #9:

- GNU G++17 7.3.0
- GNU G++20 13.2 (64 bit, winlibs)
- GNU G++23 14.2 (64 bit, msys2)

→ Submit?

Language:
GNU G++23 14.2 (64 bit, ms

Choose file:

Choose File

No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
318196386	May/03/2025 11:40	Accepted
318195725	May/03/2025 11:33	Wrong answer on test 3
318194671	May/03/2025 11:23	Wrong answer on test 3