CODEFORCES β
Sponsored by Telegram

🇬🇧 🇷🇺
Enter | Register

HOME   CONTESTS   GYM   **PROBLEMSET**   GROUPS   RATING   API   CANADA CUP 🏆   SECTIONS

PROBLEMS   SUBMIT   STATUS   STANDINGS   CUSTOM TEST

A. Magic Spheres

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

Carl is a beginner magician. He has a blue, b violet and c orange magic spheres. In one move he can transform two spheres **of the same color** into one sphere of any other color. To make a spell that has never been seen before, he needs at least x blue, y violet and z orange spheres. Can he get them (possible, in multiple actions)?

Input

The first line of the input contains three integers a, b and c ($0 \le a, b, c \le 1\,000\,000$) — the number of blue, violet and orange spheres that are in the magician's disposal.

The second line of the input contains three integers, x, y and z ($0 \le x, y, z \le 1\,000\,000$) — the number of blue, violet and orange spheres that he needs to get.

Output

If the wizard is able to obtain the required numbers of spheres, print "Yes". Otherwise, print "No".

Examples

input
4 4 0 2 1 2
output
Yes

input
5 6 1 2 7 2
output
No

input
3 3 3 2 2 2
output
Yes

Note

In the first sample the wizard has 4 blue and 4 violet spheres. In his first action he can turn two blue spheres into one violet one. After that he will have 2 blue and 5 violet spheres. Then he turns 4 violet spheres into 2 orange spheres and he ends up with 2 blue, 1 violet and 2 orange spheres, which is exactly what he needs.