(Adv.) Competitive Programming

Submit until end of contest, via the judge interface

Problem: melodies (1 second timelimit)

You are a master composer and, over the years, have created a special way to compose pieces: start with an initial melody, evolve it in a specific way and ultimately end up with the final, closing melody. Each melody consists of n notes, each of which can be identified by its pitch, a number between 1 and 88. To evolve a melody, you change it one note at a time, except for the first and last, which have to stay the same. The way you change a note is by replacing its pitch with the sum of the pitches of the two adjacent notes minus the original pitch of the changed note.

During this process you may end up with notes lower than 1 or higher than 88. While you generally try to avoid this[1], it is often unavoidable.

Although this method lets you create perfect compositions, it also limits you quite a bit. While composing, you usually come up with an initial and final melody first. However, there often is no way to evolve the inital melody into the final one using your method. Since filtering out these ideas manually is tedious, you want to automate the process.

Input The input starts with a line containing n ($1 \leq n \leq 3 \cdot 10^5$), the number of notes. The next two lines contain the initial and final melody respectively. Each melody consists of n numbers, where each number ranges from 1 to 88, inclusively.

Output Print `Yes` if a perfect transition from the initial melody to the final one exists, and `No` otherwise.

Sample input

```
3
1 2 5
1 4 5
```

Sample output

```
Yes
```

[1] You want your pieces to be playable without specialized instruments

```
3
1 2 5
1 3 5
```

```
No
```

```
4
4 5 12 9
4 1 2 9
```

```
Yes
```