Problem L. Looking For Binary Trees

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	1024 mebibytes

There is a sloth residing in a binary tree consisting of n vertices. The vertices are numbered by integers from 1 to n.

The sloth has noted down the preorder and postorder traversal results of the binary tree in which it resides to report its residence. The definitions of the preorder and postorder traversals are as follows:

- Preorder traversal: visit the current vertex, then preorder traverse the left subtree, then preorder traverse the right subtree.
- Postorder traversal: postorder traverse the left subtree, then postorder traverse the right subtree, then visit the current vertex.

The sloth has realized that there may be multiple binary trees that yield the same preorder and postorder traversal results, or it may have noted them down incorrectly, resulting in no such binary tree existing.

You need to determine the number of binary trees that have the same traversal results given the preorder and postorder traversal results noted by the sloth, and print it modulo 998 244 353.

Input

The first line contains an integer n, the number of vertices in the binary tree ($1 \le n \le 5 \cdot 10^5$).

The second line contains n integers representing the preorder traversal results.

The third line contains n integers representing the postorder traversal results.

The preorder and postorder traversal results provided in the input are permutations of integers from 1 to n without duplicates.

Output

Print the answer to the problem modulo 998 244 353 on a single line.

Examples

standard input	*standard output*
5 4 1 3 5 2 1 5 2 3 4	1
7 1 2 3 4 5 6 7 4 5 3 2 7 6 1	4
2 1 2 1 2	0