**This is a Binary Tree (Extra)**

Binary Tree is a very popular data structure in Computer Science. A binary tree can be traverse in inorder, preorder, postorder traversal. In addition, level order traversal represents the level wise traversing where root is in level-0 and all the nodes connected with root are in level-2 and so on.

In this problem, you will be given the Inorder and Preorder traversal of a Binary Tree. You need to print the Postorder and Level Order traversal of the tree.

**Input**

First Line consists of the number of nodes N (1 <= N <= 2000) of the tree.

Second line will be the Preorder traversal of the tree.

Third line will be the Inorder traversal of the tree.

**Output**

Print two line.

First line should be the Postorder traversal and the second line should be the level order traversal of the given tree.

See the sample for better understanding.

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| Sample Input 1 | 10  5 58 95 17 94 92 7 87 76 12  17 95 92 94 87 7 58 5 12 76 |
| Sample Output 1 | 17 92 87 7 94 95 58 12 76 5  5 58 76 95 12 17 94 92 7 87 |
| Sample Input 2 | 20  32 78 44 95 72 59 71 28 83 94 8 24 19 49 35 26 15 7 12 1  95 44 72 78 28 71 59 83 32 19 24 8 26 35 15 49 12 7 1 94 |
| Sample Output 2 | 95 72 44 28 71 83 59 78 19 24 26 15 35 12 1 7 49 8 94 32  32 78 94 44 59 8 95 72 71 83 24 49 28 19 35 7 26 15 12 1 |