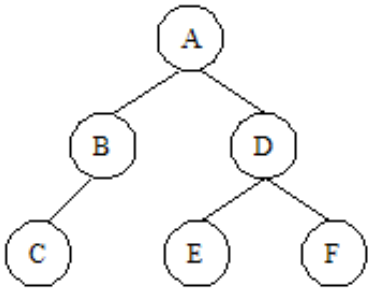
Problem F - Pre, in and post

Time Limit: 1 second

A common problem in data structures is to determine the traversal of a binary tree. There are three classic ways to do it:

Pre-order: You must visit in sequence the root, left subtree and the right subtree.
In-order: You must visit in sequence the left subtree, the root and the right subtree.
Post-order: You must visit in sequence the left subtree, the right subtree and the root.

See the picture below:



The pre, in and post-order traversal are, respectively, ABCDEF, CBAEDF and CBEFDA. In this problem, you must compute the post-order traversal of a binary tree given its in-order and pre-order traversals.

Input

The input set consists of a positive number $\mathbf{C} \leq \mathbf{2000}$, that gives the number of test cases and **C** lines, one for each test case. Each test case starts with a number $\mathbf{1} \leq \mathbf{N} \leq \mathbf{52}$, the number of nodes in this binary tree. After, there will be two strings $\mathbf{S_1}$ and $\mathbf{S_2}$ that describe the pre-order and in-order traversal of the tree. The nodes of the tree are labeled with different characters in the range **a..z** and **A..Z**. The values of **N**, $\mathbf{S_1}$ and $\mathbf{S_2}$ are separeted by a blank space.

Output

For each input set, you should output a line containing the post-order transversal for the current tree.

Sample input

```
3
3 xYz Yxz
3 abc cba
6 ABCDEF CBAEDF
```

Sample output

```
Yzx
cba
CBEFDA
```

Problem setter: Sebastião Alves