E. Back to Edit Distance

Score: 1  
  
CPU: 1.5s  
Memory: 1024MB

Given 2 permutations of integers from 1 to N, you need to find the minimum number of operations necessary to change both or any one of them in such a way that they become exactly same. Here only two operations are allowed: either you can delete an integer from any position or you can insert an integer into any position, but replacing one integer by another one is not allowed.

Say, N = 5 and the permutations are {1, 3, 5, 4, 2} and {1, 5, 4, 3, 2}. Then we need just 2 operations: we need to delete 3 from the 2nd position and insert it in the 4th position of the first permutation, or we can delete 3 from both the permutations, which also needs two operations.

Input

First line of the input contains a positive integer T (T ≤ 40). Each of the following T cases contains 3 lines for each case: the 1st line contains a single integer N (1 ≤ N ≤ 200,000) and the next two lines contain the two permutations of the integers.

Output

For each case, print a line of the form Case : , where x is the case number and y is the number of operations necessary to covert the 1st permutation to the 2nd permutation.

Sample

| **Input** | **Output** |
| --- | --- |
| 2  5  1 3 5 4 2  1 5 4 3 2  4  1 2 4 3  3 4 2 1 | Case 1: 2  Case 2: 6 |