

Xi, a developmental biologist is working on developmental distances of chromosomes. A chromosome, in the Xi's simplistic view, is a permutation from  $n$  genes numbered 1 to  $n$ . Xi is working on an evolutionary distance metric between two chromosomes. In Xi's theory of evolution any subset of genes lying together in both chromosomes is a positive witness for chromosomes to be similar.

A positive witness is a pair of sequence of the same length  $A$  and  $A'$ , where  $A$  is a consecutive subsequence of the first chromosome,  $A'$  is a consecutive subsequence of the second chromosome, and  $A$  is a permutation of  $A'$ . The goal is to count the number of positive witnesses of two given chromosomes that have a length greater than one.

## Input

There are several test case in the input. Each test case starts with a line containing the number of genes ( $2 \leq n \leq 3000$ ). The next two lines contain the two chromosomes, each as a list of positive integers. The input terminates with a line containing '0' which should not be processed as a test case.

## Output

For each test case, output a single line containing the number of positive witness for two chromosomes to be similar.

## Sample Input

```
4
3 2 1 4
1 2 4 3
5
3 2 1 5 4
3 2 1 5 4
0
```

## Sample Output

```
3
10
```