



# Beautiful Pairs ☆

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You are given two arrays,  $A$  and  $B$ , both containing  $N$  integers.

A pair of indices  $(i, j)$  is beautiful if the  $i^{th}$  element of array  $A$  is equal to the  $j^{th}$  element of array  $B$ . In other words, pair  $(i, j)$  is beautiful if and only if  $A[i] = B[j]$ . A set containing beautiful pairs is called a beautiful set.

A beautiful set is called pairwise disjoint if for every pair  $(l[i], r[i])$  belonging to the set there is no repetition of either  $l[i]$  or  $r[i]$  values. For instance, if  $A = [10, 11, 12, 5, 14]$  and  $B = [8, 9, 11, 11, 5]$  the beautiful set  $[(1, 2), (1, 3), (3, 4)]$  is not pairwise disjoint as there is a repetition of 1, that is  $l[0][0] = l[1][0]$ .

Your task is to change **exactly 1** element in  $B$  so that the size of the pairwise disjoint beautiful set is maximum.

## Function Description

Complete the beautifulPairs function in the editor below. It should return an integer that represents the maximum number of pairwise disjoint beautiful pairs that can be formed.

beautifulPairs has the following parameters:

- $A$ : an array of integers
- $B$ : an array of integers

## Input Format

The first line contains a single integer  $n$ , the number of elements in  $A$  and  $B$ .

The second line contains  $n$  space-separated integers  $A[i]$ .

The third line contains  $n$  space-separated integers  $B[i]$ .

## Constraints

- $1 \leq n \leq 10^3$
- $1 \leq A[i], B[i] \leq 10^3$

## Output Format

Determine and print the maximum possible number of pairwise disjoint beautiful pairs.

**Note:** You must first change 1 element in  $B$ , and your choice of element must be optimal.

## Sample Input 0



```
4
1 2 3 4
1 2 3 3
```

### Sample Output 0

```
4
```

### Explanation 0

You are given  $A = [1, 2, 3, 4]$  and  $B = [1, 2, 3, 3]$ .

The beautiful set is  $[(0, 0), (1, 1), (2, 2), (2, 3)]$  and maximum sized pairwise disjoint beautiful set is either  $[(0, 0), (1, 1), (2, 2)]$  or  $[(0, 0), (1, 1), (2, 3)]$ .

We can do better. We change the  $3^{rd}$  element of array  $B$  from  $3$  to  $4$ . Now new B array is:  $B = [1, 2, 4, 3]$  and the pairwise disjoint beautiful set is  $[(0, 0), (1, 1), (2, 3), (3, 2)]$ . So, the answer is 4.

Note that we could have also selected index 3 instead of index 2 but it would have yeilded the same result. Any other choice of index is not optimal.

### Sample Input 1

```
6
3 5 7 11 5 8
5 7 11 10 5 8
```

### Sample Output 1

```
6
```

Java 8



```
1
```

