Problem 2657: Find the Prefix Common Array of Two Arrays

Problem Information

Difficulty: Medium
Acceptance Rate: 87.00%
Paid Only: No
Tags: Array, Hash Table, Bit Manipulation

Problem Description

You are given two **0-indexed** integer**** permutations `A` and `B` of length `n`.

A **prefix common array** of `A` and `B` is an array `C` such that `C[i]` is equal to the count of numbers that are present at or before the index `i` in both `A` and `B`.

Return _the**prefix common array** of _`A` _and_`B`.

A sequence of `n` integers is called a **permutation** if it contains all integers from `1` to `n` exactly once.

Example 1:

Input: A = [1,3,2,4], B = [3,1,2,4] **Output:** [0,2,3,4] **Explanation:** At i = 0: no number is common, so C[0] = 0. At i = 1: 1 and 3 are common in A and B, so C[1] = 2. At i = 2: 1, 2, and 3 are common in A and B, so C[2] = 3. At i = 3: 1, 2, 3, and 4 are common in A and B, so C[3] = 4.

Example 2:

Input: A = [2,3,1], B = [3,1,2] **Output:** [0,1,3] **Explanation:** At i = 0: no number is common, so C[0] = 0. At i = 1: only 3 is common in A and B, so C[1] = 1. At i = 2: 1, 2, and 3 are common in A and B, so C[2] = 3.

Constraints:

* `1 <= A.length == B.length == n <= 50` * `1 <= A[i], B[i] <= n` * `It is guaranteed that A and B are both a permutation of n integers.`

Code Snippets

C++:

```
class Solution {
public:
vector<int> findThePrefixCommonArray(vector<int>& A, vector<int>& B) {

}
};
```

Java:

```
class Solution {
public int[] findThePrefixCommonArray(int[] A, int[] B) {

}
}
```

Python3:

```
class Solution:
def findThePrefixCommonArray(self, A: List[int], B: List[int]) -> List[int]:
```