Free Attendance

Assignment 2
Computer Programming
Due date: 11 October, 2018

Problem Statement: As we all know our college has 85% attendance issue. Raju is one of the student and he has T friends in our college. But every friend of his has a condition and if he satisfies his condition then only his friend gives him proxy for one of the class. They give him two arrays P and Q and he has to select two subarrays such that :
1) The two subarrays should be of same size. Let the size be s
2) Subarray A is from array P and subarray B is from array Q .
3) The number of pairs which satisfies A[i] = B[j] should be exactly equal to s*s. Here $1 \leq i, j \leq s$ (Assuming 1 based indexing)
Raju wants to maximize number of proxies he would get so he is interested in finding the largest s which satisfies all the above 3 conditions. Can you help him to maximize number of proxies ? Since each friend would give s proxies return the answer as multiplication of T and the largest s possible.

Input
First line contains a single integer H denoting number of test cases. The description of H test cases follows The first line comprises three integers N, M and T. The second line contains N space separated integers denoting the elements of array P and the third line contains M space separated integers denoting the elements of array Q.
Output
A single integer denoting the maximum number of proxies Raju will get.
Constraints
$1 \leq H \leq 10$
$1 \leq N, M \leq 2 * 10^3$
$1 \leq T \leq 10^6$
$1 \leq P[i] \leq 10^9$ for each i from 1 to N
$1 \leq Q[i] \leq 10^9$ for each i from 1 to M

Time Limit: 1 sec
Memory Limit: 256 MB

Sample Test Case

Input	Output
1 4 4 3 1 3 5 6 3 5 1 4	3

Notes
Subarrays are arrays within another array, it contains contiguous elements of the array. Here in the sample case the largest s possible which satisfies the above 3 conditions is 1. Since there are T friends the total number of proxies are 1*3 = 3.