Vijay And His Interview

Vijay appeared for an interview in the placements of his college after getting his preparation done under mentors of coding blocks. The company is offering whooping 20Lakh per annual package to the selected candidate. Vijay needs to solve one last question to get selected for the job.

He is given two arrays A and B of integers. Both the arrays contains same elements but in shuffled order. There are K evil pairs of integers in the array A. Vijay is supposed to tell whether he can transform the array A to array B . The only operation he can do is swap two integers of an evil pair.

Input Format:

The first line of input will contain an integer T, denoting the number of test cases.

Each test case starts with two space-separated integers N and M. N is the length of array A and B. The next line contains N space-separated integers Pi denoting elements of A. The next line contains N space-separated integers Qi denoting elements of B. Each of the next M lines contains two space-separated integers xi and yi denoting the evil pair in the array A.

Output Format:

For every test case output YES if Vijay can obtain array B and NO otherwise.

Constraints:

1 ≤ T ≤ 10

2 ≤ N ≤ 10^5

1 ≤ M ≤ 10^5

1 ≤ Pi, Qi ≤ N. Pi and Qi are all distinct.

1 ≤ xi < yi ≤ N

Sample Input

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

Sample Output

```
NO
YES
```

Difficulty

Medium