**Array Subset of another array**

**Easy**

Given two arrays: **a1[0..n-1]** of size **n** and **a2[0..m-1]** of size **m**. Task is to check whether a2[] is a subset of a1[] or not. Both the arrays can be sorted or unsorted. There can be duplicate elements.

**Example 1:**

**Input**:

a1[] = {11, 7, 1, 13, 21, 3, 7, 3}

a2[] = {11, 3, 7, 1, 7}

**Output**:

Yes

**Explanation:**

a2[] is a subset of a1[]

**Example 2:**

**Input**:

a1[] = {1, 2, 3, 4, 4, 5, 6}

a2[] = {1, 2, 4}

**Output**:

Yes

**Explanation:**

a2[] is a subset of a1[]

**Example 3:**

**Input**:

a1[] = {10, 5, 2, 23, 19}

a2[] = {19, 5, 3}

**Output**:

No

**Explanation:**

a2[] is not a subset of a1[]

**Expected Time Complexity:** O(n)  
**Expected Auxiliary Space:** O(n)  
  
**Constraints:**  
1 <= n,m <= 105  
1 <= a1[i], a2[j] <= 106

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//{ Driver Code Starts

//Initial Template for Java

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import java.util.\*;

import java.lang.\*;

import java.io.\*;

class CodingMaxima {

public static void main(String[] args) throws IOException

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine().trim());

while(t-->0)

{

StringTokenizer stt = new StringTokenizer(br.readLine());

long n = Long.parseLong(stt.nextToken());

long m = Long.parseLong(stt.nextToken());

long a1[] = new long[(int)(n)];

long a2[] = new long[(int)(m)];

String inputLine[] = br.readLine().trim().split(" ");

for (int i = 0; i < n; i++) {

a1[i] = Long.parseLong(inputLine[i]);

}

String inputLine1[] = br.readLine().trim().split(" ");

for (int i = 0; i < m; i++) {

a2[i] = Long.parseLong(inputLine1[i]);

}

Compute obj = new Compute();

System.out.println(obj.isSubset( a1, a2, n, m));

}

}

}

// } Driver Code Ends

//User function Template for Java

class Compute {

public String isSubset( long a1[], long a2[], long n, long m) {

if(n<m)

return "No";

HashMap<Long,Integer> hm=new HashMap<>();

for(long i :a1 ){

hm.put(i, hm.getOrDefault(i,0)+1);

}

for(long i: a2){

if(hm.containsKey(i) && hm.get(i)>0){

hm.put(i,hm.get(i)-1);

}

else

return "No";

}

return "Yes";

}

}