



Problem A

Similarity Computation

Time limit: 1 second

Memory limit: 512 megabytes

Problem Description

The Jaccard similarity coefficient is usually used for measuring the similarity of two sets. Give two sets A and B , the Jaccard similarity coefficient, $J(A, B)$, is defined as the size of the intersection divided by the size of the union of the two sets. That is, $J(A, B) = \frac{|A \cap B|}{|A \cup B|}$. For example, if $A = \{1, 3, 7, 8\}$ and $B = \{1, 7, 9\}$, then $J(A, B) = \frac{|\{1, 7\}|}{|\{1, 3, 7, 8, 9\}|} = \frac{2}{5}$.

Assume the element i in the set is an integer between 0 to 9 ($0 \leq i \leq 9$) and the size of the set is no larger than 10. Please write a program to compute the Jaccard similarity coefficient of two sets A and B . And output 1 if $J(A, B) > 0.5$ and 0 if $J(A, B) \leq 0.5$.

Input Format

The first line of the input file contains an integer T ($T \leq 25$) indicating the number of test cases to follow.

Each test case will consist of three lines. The first line contains two integers m and n ($0 < m, n \leq 10$), indicating the number of elements of sets A and B , respectively. The second line contains m integers (the elements of set A) and the third line contains n integers (the elements of set B).

You may assume:

- $1 \leq T \leq 25$
- $m \leq 10$ and $n \leq 10$

Output Format

For each test case, output 1 if $J(A, B) > 0.5$ and 0 if $J(A, B) \leq 0.5$.

Sample Input

```
3
5 6
0 2 3 5 6
1 2 4 6 7 9
3 2
1 4 6
4 6
7 7
0 1 3 4 6 8 9
0 1 2 3 4 6 7
```

Sample Output

```
0
1
1
```