

1061 - Exchanging Cards

Description

Alice and Betty collect Pokemon cards. The cards are printed for a game that imitates the battle system of one of the most popular videogames in history, but Alice and Betty are too young to actually play the game, and are only interested in the actual cards. To make it easier, we'll assume each card has an unique identifier, given as an integer number. Both girls have a set of cards, and, like most girls their age, like to trade the cards they have. They obviously don't care about identical cards they both have, and they don't want to receive repeated cards in the trade. Besides, the cards are traded in a single operation: Alice gives Betty **N** distinct cards and receives back other **N** distinct cards. The girls want to know what is the maximum number of cards they can trade. For instance, if Alice has cards {1, 1, 2, 3, 5, 7, 8, 8, 9, 15} and Betty has cards {2, 2, 2, 3, 4, 6, 10, 11, 11}, they can trade at most four cards. Write a program that given the sets of cards owned by Alice and Betty, determines the maximum number of cards they can trade.

Input specification

The input contains several test cases. The first line of a test case contains two integers **A** and **B**, separated by a blank space, indicating respectively the number of cards Alice and Betty have ($1 \leq A \leq 10^4$ and $1 \leq B \leq 10^4$). The second line contains **A** space-separated integers, each indicating one of Alice's cards ($1 \leq X_i \leq 10^5$). The third line contains **B** integers **Y_i** separated by whitespaces, each number indicating one of Betty's cards ($1 \leq Y_i \leq 10^5$). Alice and Betty's cards are listed in non-descending order. The end of input is indicated by a line containing only two zeros, separated by a blank space.

Output specification

For each test case, your program should print a single line, containing an integer number, indicating the maximum number of cards Alice and Betty can trade.

Sample input

```
1 1
1000
1000
3 4
1 3 5
2 4 6 8
10 9
```

```
1 1 2 3 5 7 8 8 9 15
2 2 2 3 4 6 10 11 11
0 0
```

Sample output

```
0
3
4
```

Hint(s)

Source	Brazilian National Contest 2009
Added by	ejaltuna
Addition date	2011-10-12 21:30:13.0
Time limit (ms)	1000
Test limit (ms)	1000
Memory limit (kb)	131072
Output limit (mb)	64
Size limit (bytes)	100000
Enabled languages	C C# C++ Java Pascal Perl PHP Python Ruby Text