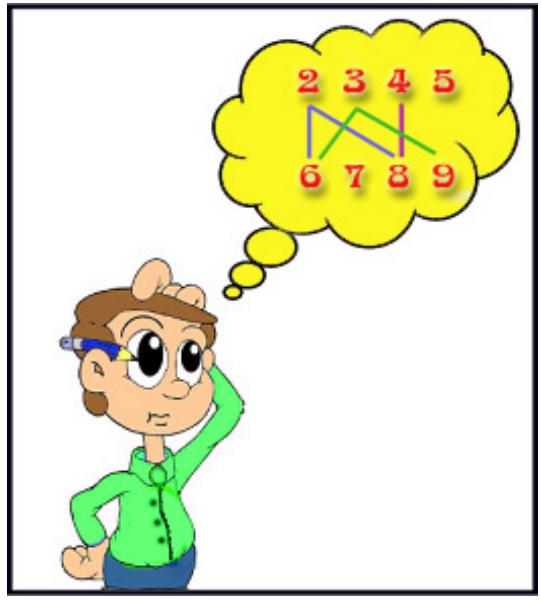
You will be given two sets of integers. Lets call them set **A** and set **B**. Set **A** contains n elements and set **B** contains m elements. You have to remove k_1 elements from set **A** and k_2 elements from set **B** so that of the remaining values no integer in set **B** is a multiple of any integer in set **A**. k_1 should be in the range $[0, n]$ and k_2 in the range $[0, m]$.

You have to find the value of $(k_1 + k_2)$ such that $(k_1 + k_2)$ is as low as possible.

P is a multiple of Q if there is some integer K such that $P = K * Q$.

Suppose set **A** is {2,3,4,5} and set **B** is {6,7,8,9}. By removing 2 and 3 from **A** and 8 from **B**, we get the sets {4,5} and {6,7,9}. Here none of the integers 6, 7 or 9 is a multiple of 4 or 5.

So for this case the answer is 3 (2 from set **A** and 1 from set **B**).



Input

The first line of input is an integer T ($T < 50$) that determine the number of test cases. Each case consists of two lines. The first line starts with n followed by n integers. The second line starts with m followed by m integers. Both n and m will be in the range $[1, 100]$. All the elements of the two sets will fit in 32 bit signed integer.

Output

For each case, output the case number followed by the answer.

Sample Input

```
2
4 2 3 4 5
4 6 7 8 9
3 100 200 300
1 150
```

Sample Output

```
Case 1: 3
Case 2: 0
```