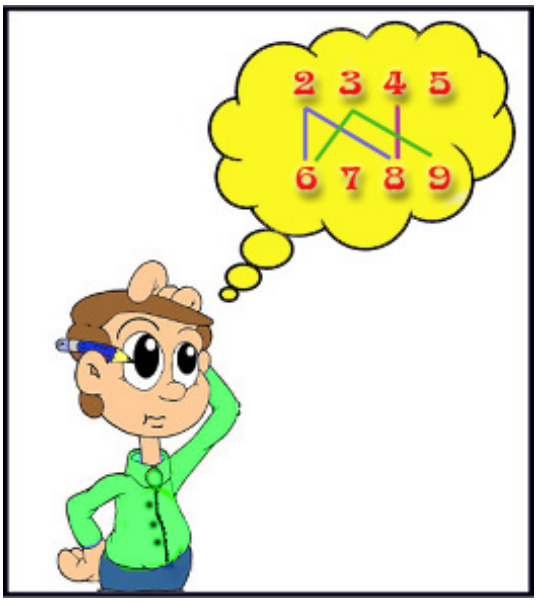
UVa Online Judge

# 11159 Factors and Multiples




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
```