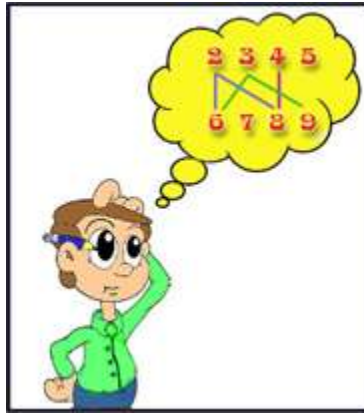


## 1149 – Factors and Multiples

You will be given two sets of integers. Let's call them set **A** and set **B**. Set **A** contains **n** elements and set **B** contains **m** elements. You have to remove **k<sub>1</sub>** elements from set **A** and **k<sub>2</sub>** 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<sub>1</sub>** should be in the range **[0, n]** and **k<sub>2</sub>** in the range **[0, m]**.

You have to find the value of **(k<sub>1</sub> + k<sub>2</sub>)** such that **(k<sub>1</sub> + k<sub>2</sub>)** 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** (**two** from set **A** and **one** from set **B**).

### Input

Input starts with an integer **T** (**≤ 50**), denoting the number of test cases.

The first line of each case starts with an integer **n** followed by **n** positive integers. The second line starts with **m** followed by **m** positive integers. Both **n** and **m** will be in the range **[1, 100]**. Each element of the two sets will fit in a **32** bit signed integer.

### Output

For each case of input, print the case number and the result.

| Sample Input  | Output for Sample Input |
|---|-------------------------|
| 2<br>4 2 3 4 5<br>4 6 7 8 9<br>3 100 200 300<br>1 150 | Case 1: 3<br>Case 2: 0  |