**Make a Graph**

**Input:** Standard Input, **Output:** Standard Output

**Time Limit:** 1 second(s)

**Memory Limit:** 256 megabytes

**Problem Statement:**

Given **N** nodes, let's denote each of the **i'th** node contains value **Ai**.

Consider an **edge** between two nodes **i , j** where **i != j** and (**1 <= i , j <= N**) if the value of the nodes **A[i]** and **A[j]** share common factors. Assume that, **1** is**not a factor** of any numbers.

We don't want trouble with that graph.So just let us know **the number of connected components** in that graph.

**Input:**

The first line contains one integer **T (1 ≤ T ≤ 100)** — the number of test cases.

Each test case consists of two lines. The first line contains one integers **N** where **(1 <= N <= 105)** — the number of nodes.

The second line contains **N** integers **A1, A2, ..., AN (0 ≤ Ai ≤ 106)** - the value of the i'th node.

**Output:**

For each case you have to print a line consisting the case number and the number of connected components. Look at the sample output for exact format.

**Sample Input/Output:**

|  |  |
| --- | --- |
| **Sample Input** | **Sample Output** |
| 2  3  2 3 4  6  2 3 4 5 6 6 | Case 1: 2  Case 2: 2 |