# 6912   Prime Switch

There are lamps (uniquely numbered from 1 to N) and K switches. Each switch has one prime number written on it and it is connected to all lamps whose number is a multiple of that prime number. Pressing a switch will toggle the condition of all lamps which are connected to the pressed switch; if the lamp is off then it will be on, and vice versa. You can press only one switch at one time; in other words, no two switches can be pressed together at the same time. If you want to press multiple switches, you should do it one by one, i.e. allowing the affected lamps of the previous switch toggle their condition first before pressing another switch.

Initially all the lamps are off. Your task is to determine the maximum number of lamps which can be turned on by pressing one or more switches.

For example, let there be 10 lamps (1 …10) and 2 switches which numbers are 2 and 5 as shown in the following figure.
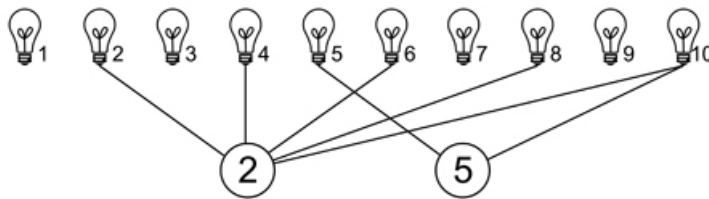
In this example:

- Pressing switch 2 will turn on 5 lamps: 2, 4, 6, 8, and 10.

- Pressing switch 5 will turn on 2 lamps: 5 and 10.

- Pressing switch 2 and 5 will turn on 5 lamps: 2, 4, 5, 6, and 8. Note that lamp number 10 will be turned off as it is toggled twice, by switch 2 and switch 5 (off → on → off).

Among all possible switches combinations, the maximum number of lamps which can be turned on in this example is 5.

Input

The first line of input contains an integer T ($T \leq 100$) denoting the number of cases. Each case begins with two integers in a line: N and K ($1 \leq K \leq N \leq 1,000$), denoting the number of lamps and switches respectively. The next line contains K distinct prime numbers, each separated by a single space, representing the switches number. You are guaranteed that the largest number among those switches is no larger than N.

Output

For each case, output 'Case #X: Y', where X is the case number starts from 1 and Y is the maximum number of lamps which can be turned on for that particular case.

Explanation for 2nd sample case:

You should press switch 2 and 7, such that 11 lamps will be turned on: 2, 4, 6, 7, 8, 10, 12, 16, 18, 20, and 21. There exist some other combinations which can turn on 11 lamps, but none can turn more than 11 lamps on.

Explanation for 3rd sample case:
    There is only one switch, and pressing it will turn 20 lamps on.
Explanation for 4th sample case:
    Pressing all switches will turn 42 lamps on, and it is the maximum possible in this case.

Sample Input

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4
10 2
2 5
21 4
2 3 5 7
100 1
5
100 3
3 19 7
```

Sample Output

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Case #1: 5
Case #2: 11
Case #3: 20
Case #4: 42
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