

## 1117 - Helping Cicada

Cicada is an insect with large transparent eyes and well-veined wings similar to the "jar flies". The insects are thought to have evolved 1.8 million years ago during the Pleistocene epoch. There are about 2,500 species of cicada around the world which live in temperate tropical climates.

These are all sucking insects, which pierce plants with their pointy mouthparts and suck out the juices. But there are some predators (like birds, the Cicada Killer Wasp) that attack cicadas. Each of the predators has a periodic cycle of attacking Cicadas. For example, birds attack them every three years; wasps attack them every 2 years. So, if Cicadas come in the 12<sup>th</sup> year, then birds or wasps can attack them. If they come out in the 7<sup>th</sup> year then no one will attack them.



So, at first they will choose a number  $N$  which represents possible life-time. Then there will be an integer  $M$  indicating the total number of predators. The next  $M$  integers represent the life-cycle of each predator. The numbers in the range from 1 to  $N$  which are not divisible by any of those  $M$  life-cycles numbers will be considered for cicada's safe-emerge year. And you want to help them.

### Input

Input starts with an integer  $T$  ( $\leq 125$ ), denoting the number of test cases.

Each case contains two integers  $N$  ( $1 \leq N < 2^{31}$ ) and  $M$  ( $1 \leq M \leq 15$ ). The next line contains  $M$  positive integers (fits into 32 bit signed integer) denoting the life cycles of the predators.

### Output

For each test case, print the case number and the number of safe-emerge days for cicada.

Sample Input	Output for Sample Input
2	Case 1: 4
15 3	Case 2: 3
2 3 5	
10 4	
2 4 5 7	