Problem F. FROGS
Time Limit: 1 second

Problem Description

There are m stones lying on a circle, and n frogs are jumping over them. The stones are numbered from 0 to $m-1$ and the frogs are numbered from 1 to n. The i-th frog can jump over exactly a_i stones in a single step, which means from stone $j \ mod \ m$ to stone $(j + a_i) \ mod \ m$ (since all stones lie on a circle).

All frogs start their jump at stone 0, then each of them can jump as many steps as he wants. A frog will occupy a stone when he reach it, and he will keep jumping to occupy as much stones as possible. A stone is still considered "occupied" after a frog jumped away. They would like to know which stones can be occupied by at least one of them. Since there may be too many stones, the frogs only want to know the sum of those stones' identifiers.

Input

There are multiple test cases (no more than 20), and the first line contains an integer t, meaning the total number of test cases.

For each test case, the first line contains two positive integer n and m - the number of frogs and stones respectively ($1 \le n \le 10^4, \ 1 \le m \le 10^9$).

The second line contains n integers $a_1, a_2, \cdots, a_n$, where a_i denotes step length of the i-th frog ($1 \le a_i \le 10^9$).

Output

For each test case, you should print first the identifier of the test case and then the sum of all occupied stones' identifiers.

Sample Input

```
3
2 12
9 10
3 60
22 33 66
```

```
9 96
81 40 48 32 64 16 96 42 72
```

Sample Output

```
Case #1: 42
Case #2: 1170
Case #3: 1872
```