1134 – Be Efficient

You are given an array with **N** integers, and another integer **M**. You have to find the number of consecutive subsequences which are divisible by **M**.

For example, let **N** = 4, the array contains {2, 1, 4, 3} and **M** = 4.

The consecutive subsequences are {2}, {2 1}, {2 1 4}, {2 1 4 3}, {1}, {1 4}, {1 4 3}, {4}, {4 3} and {3}. Of these 10 'consecutive subsequences', only two of them adds up to a figure that is a multiple of 4 - {1 4 3} and {4}.

Input

Input starts with an integer **T (≤ 10)**, denoting the number of test cases.

Each case contains two integers **N ($1 \leq N \leq 10^5$)** and **M ($1 \leq M \leq 10^5$)**. The next line contains **N** space separated integers forming the array. Each of these integers will lie in the range **[1, 10^5]**.

Output

For each case, print the case number and the total number of consecutive subsequences that are divisible by **M**.

Sample Input	Output for Sample Input
2 4 4 2 1 4 3 6 3 1 2 3 4 5 6	Case 1: 2 Case 2: 11

Note

Dataset is huge. Use faster i/o methods.