Mario is playing a game where he has to reach a rock by jumping over **n** (1 <= n <= 10^5) other rocks. Each rock has a coin Ai (1 <= i <= n) on them. Mario can either take the coin or he can skip it. Taking a coin will add its value to his score. If he takes Ai then he will have to take all Aj (1 <= j <= n) if Ai = Aj and ∑Aj (summation of all Aj) is divisible by **k** (1 <= k <= 10^3).

After jumping over all the rocks serially, Mario has to maximize his score.

Given **n**, **k** and coins value on each of the **n** rocks, determine the maximum score Mario can get.

**Input:**

First line of input is a number **T** (1 <= T <= 10). Each of the next **T** lines has 2 inputs **n**, **k**. Next line will have **n** inputs for **Ai** (1 <= Ai <= 10^18).

**Output:**

For each case there should one number as output. The maximum value. Since the value can be very large, you have to print the value modulo 2^64.

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 1  5 7  14 8 21 14 1 | 49 |