

Problem Statement

You are given an array of size N and another integer M . Your target is to find the maximum value of sum of subarray modulo M .

Subarray is a continuous subset of array elements.

Note that we need to find the maximum value of $(\text{Sum of Subarray}) \% M$, where there are $N * (N + 1) / 2$ possible subarrays.

Input Format

First line contains T , number of test cases to follow. Each test case consists of exactly 2 lines. First line of each test case contains 2 space separated integers N and M , size of the array and modulo value M . Second line contains N space separated integers representing the elements of the array.

Output Format

For every test case output the maximum value asked above in a newline.

Constraints

$$2 \leq N \leq 10^5$$

$$1 \leq M \leq 10^{14}$$

$$1 \leq \text{elements of the array} \leq 10^{18}$$

$$2 \leq \text{Sum of } N \text{ over all test cases} \leq 500000$$

Sample Input

```
1
5 7
3 3 9 9 5
```

Sample Output

```
6
```

Explanation

Max Possible Sum taking Modulo 7 is 6, and we can get 6 by adding first and second element of the array