

Divisible Number Sum

Hazzat is a new guy in computer science. Now he reads in 4th semester. Recently he completed the course data structure. After finishing the data structure course he can realize that those are not enough for him. Every day he falls in a new (data structure) problem and wants to solve it, but those problems he can't solve using his known data structure. He wants to establish a new data structure. But he always failed to establish it. Now help Hazzat to establish a new data structure following problems.

You will be given an array **A** of **N** integers. You need to answer **M** queries.

Each query is of the form **V x y**.

For each query, find the sum of set **S** which is a subset of array **A** index **x** to **y** and fully divisible by **V**.

That means find the sum of set **S** (subset of **A**), where **A[i]** is included in **S** if $x \leq i \leq y$ and $A[i] \% V == 0$.

Input

First line consists of a number **T** ($1 \leq T \leq 5$) test cases.

For each case given two integer numbers **N M** ($1 \leq N \leq 10^5, 1 \leq M \leq 2 \cdot 10^5$)

Next line has **N** integers representing the elements of array **A**. ($1 \leq A[i] \leq 10^6$)

M lines follow, one per query.

Each line has 3 integers **V, x** and **y** ($1 \leq V \leq 1000, 1 \leq x \leq y \leq N$)

Output

For each case print case number and query answer.

Write a blank line between two cases.

Sample

Input

```
2
5 2
1 2 3 4 6
2 1 5
5 1 4
5 2
2 3 5 3 7
3 2 4
5 1 5
```

Output

```
Case #1
```

12
0

Case #2

6
5

Hints:

Query 1: in array index 1 to 5 the set S is {2, 4, 6} because those are fully divisible by 2, so the sum is 12.

Query 2: in array index 1 to 4 the set S is {} because there are not any number which fully divisible by 5, so the sum is 0.

Data set is so huge. Use faster I/O