

DMPG '18 S5 - Mimi and Division

For her birthday, Mimi is given an array A of N integers. She then proceeds to perform Q operations:

- 1 `l r x`: Count how many numbers there are in the subarray $A_l, A_{l+1}, \dots, A_{r-1}, A_r$ which are divisible by x .
- 2 `u v`: Replace the u^{th} number with v .

Because you forgot to get Mimi a present, you decide to write a program to verify her answers.

Constraints

For all subtasks,

$$1 \leq l_i \leq r_i \leq N$$

$$1 \leq u_i \leq N$$

$$1 \leq v_i, x_i \leq 200\,000$$

Subtask 1 [20%]

$$1 \leq N, Q \leq 2\,000$$

Subtask 2 [80%]

$$1 \leq N, Q \leq 200\,000$$

Input Specification

The first line will contain N and Q .

The next line will contain N space separated integers, $A_1, A_2, \dots, A_{N-1}, A_N$.

The next Q lines will each contain a valid query.

Output Specification

The answer to each query of type 1, each on a new line.

Sample Input

```
5 5
1 2 3 4 5
1 1 5 1
1 1 5 2
1 2 3 3
2 2 5
1 1 5 5
```

Sample Output

```
5
2
1
2
```