Sum

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 3028 Accepted Submission(s): 867

Problem Description

XXX is puzzled with the question below:

1, 2, 3, ..., n (1<=n<=400000) are placed in a line. There are m (1<=m<=1000) operations of two kinds.

Operation 1: among the x-th number to the y-th number (inclusive), get the sum of the numbers which are co-prime with p(1 <=p <= 400000).
Operation 2: change the x-th number to c(1 <=c <= 400000).

For each operation, XXX will spend a lot of time to treat it. So he wants to ask you to help him.

Input

There are several test cases.
The first line in the input is an integer indicating the number of test cases.
For each case, the first line begins with two integers --- the above mentioned n and m.
Each the following m lines contains an operation.
Operation 1 is in this format: "1 x y p".
Operation 2 is in this format: "2 x c".

Output

For each operation 1, output a single integer in one line representing the result.

Sample Input

```
1
3 3
2 2 3
1 1 3 4
1 2 3 6
```

Sample Output

```
7
0
```

Source

2012 ACM/ICPC Asia Regional Jinhua Online

Recommend

zhoujiaqi2010

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