Contest Duration: 2021-04-17(Sat) 12:40 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20210417T1610&p1=248) - 2021-04-17(Sat) 14:40 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20210417T1810&p1=248) (local time) (120 minutes)   Back to Home (/home)

📌

F - Max Matrix   ● / 🇬🇧

Time Limit: 3 sec / Memory Limit: 1024 MB

Score : 600 points

Problem Statement

We have a sequence a of length N and a sequence b of length M. Initially, every element in a and b is 0.

You are asked to process Q queries. In the i-th query, given three integers $T_i, X_i,$ and Y_i, do the following:

- if $T_i = 1$: replace a_{X_i} with Y_i;
- if $T_i = 2$: replace b_{X_i} with Y_i.

Then, after processing each query, print the value $\displaystyle\sum_{i=1}^{N}\sum_{j=1}^{M}\max(a_i, b_j)$.

Constraints

- $1 \leq N \leq 2 \times 10^5$
- $1 \leq M \leq 2 \times 10^5$
- $1 \leq Q \leq 2 \times 10^5$
- T_i is 1 or 2.
- If $T_i = 1, 1 \leq X_i \leq N$.
- If $T_i = 2, 1 \leq X_i \leq M$.
- $1 \leq Y_i \leq 10^8$
- All values in input are integers.

Remaining Time
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Input

Input is given from Standard Input in the following format:

$$
\begin{array}{ccc}
N & M & Q \\
T_1 & X_1 & Y_1 \\
T_2 & X_2 & Y_2 \\
T_3 & X_3 & Y_3 \\
& \vdots & \\
T_Q & X_Q & Y_Q
\end{array}
$$

Output

Print Q integers as instructed in Problem Statement, with newline as separator.

Sample Input 1   Copy
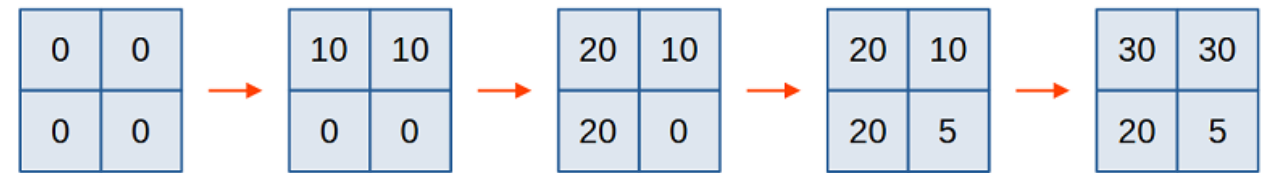
Copy

```
2 2 4
1 1 10
2 1 20
2 2 5
1 1 30
```

Sample Output 1   Copy

Copy

```
20
50
55
85
```

If we write $\max(a_i, b_j)$ at the i-th row and j-th column in a grid, the four queries will change it as follows:

0	0
0	0

→

10	10
0	0

→

20	10
20	0

→

20	10
20	5

→

30	30
20	5

Sample Input 2   Copy

Copy

```
3 3 5
1 3 10
2 1 7
1 3 5
2 2 10
2 1 1
```

Sample Output 2   Copy

Copy

```
30
44
31
56
42
```

Sample Input 3   Copy

Copy

```
200000 200000 4
2 112219 100000000
1 73821 100000000
2 26402 100000000
1 73821 100000000
```

Sample Output 3   Copy

Copy

```
20000000000000
39999900000000
59999800000000
59999800000000
```

The integers to be printed may not fit into a 32-bit integer type.

Language

Python (3.8.2)

Source Code

```
1
```

Remaining Time
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* at most 512 KiB

* Your source code will be saved as Main.*extension*.

📁 Open File   Toggle Editor   Auto Height

Submit

#telegram)

url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fjsc2021%2Ftasks%2Fjsc2021_f%3Flang%3Den&title=F%20-

Remaining Time
00:06:40