

## 5\_球球遊戲(Ball Game)

(7 分 / 13 分)

時間限制: 1 second

記憶體限制: 256 MB

### 題目敘述

小櫻與小桃正在玩一個遊戲。一開始桌子上一共有  $N$  顆球，由左到右上面依序寫著  $1, 2, \dots, N$ 。小桃會依序進行  $M$  次操作，操作會是以下兩種之一：

- 小桃會將從左邊數過來第  $a$  顆球與第  $b$  顆球交換
- 小桃會給小櫻與第  $c$  顆球上寫的數字相同數量的錢

現在小桃告訴你她依序會進行哪些操作，請告訴她小櫻總共會拿到多少錢。

### 輸入格式

輸入第一行有兩個正整數  $N, M$ ，代表有幾顆球與有幾次操作。

接下來  $M$  行每行會代表一種操作，每一行會是以下兩種格式之一：

- $1 \ a_i \ b_i$ ，代表會將第  $a_i$  顆球與第  $b_i$  顆球交換
- $2 \ c_i$ ，代表會給小櫻等於第  $c_i$  顆球寫的數字數量的錢

注意小桃會依序進行這  $M$  個操作。

### 輸出格式

請輸出一行，該行有一個整數，代表小櫻總共會拿到多少錢。

### 資料範圍

- $2 \leq N \leq 10^9$
- $1 \leq M \leq 10^5$
- $1 \leq a_i, b_i, c_i \leq N$
- $a_i \neq b_i$

### 子任務

- 子任務 1 滿足  $2 \leq N \leq 10^5$  (7 分)
- 子任務 2 沒有額外限制 (13 分)

### 測試範例

#### 輸入範例 1

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

## 輸出範例 1

```
5
```

## 輸入範例 2

```
864197532 2
2 48763
2 56562
```

## 輸出範例 2

```
105325
```

## 範例說明

在第一筆範例測資中，一開始球的編號依序為  $[1, 2, 3, 4]$ ，之後：

- 第一個操作後，球的編號會變成  $[1, 3, 2, 4]$
- 第二個操作小桃會給小櫻 3 塊錢
- 第三個操作後，球的編號會變成  $[1, 3, 4, 2]$
- 第四個操作後，球的編號會變成  $[2, 3, 4, 1]$
- 第五個操作小桃會給小櫻 2 塊錢

因此答案為 5。

# 5\_Ball Game

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(7 points / 13 points)

Time Limit: 1 second

Memory Limit: 256 MB

## Statement

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Sakura and Momo are playing a game. Initially, there are  $N$  balls on the table, numbered sequentially  $1, 2, \dots, N$  from left to right. Momo will perform  $M$  operations in sequence, which can be one of the following two types:

- Swap the ball at position  $a$  with the ball at position  $b$
- Give Sakura an amount of money equal to the number written on the  $c$ -th ball

Now, Momo tells you the sequence of operations she will perform. Please tell her how much money Sakura will earn in total.

## Input Format

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The first line contains two positive integers  $N$  and  $M$ , representing the number of balls and the number of operations.

The next  $M$  lines each represent an operation, which can be in one of the following two formats:

- $1 \ a_i \ b_i$ , which means swapping the ball at position  $a_i$  with the ball at position  $b_i$
- $2 \ c_i$ , which means giving Sakura the amount of money equal to the number on the ball at position  $c_i$

Note that Momo will perform these  $M$  operations in sequence.

## Output Format

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Output a single integer, representing the total amount of money Sakura will earn.

## Constraints

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- $2 \leq N \leq 10^9$
- $1 \leq M \leq 10^5$
- $1 \leq a_i, b_i, c_i \leq N$
- $a_i \neq b_i$

## Subtasks

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- Subtask 1:  $2 \leq N \leq 10^5$  (7 points)
- Subtask 2: No additional constraints (13 points)

## Test Cases

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## Input 1

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

## Output 1

```
5
```

## Input 2

```
864197532 2
2 48763
2 56562
```

## Output 2

```
105325
```

## Illustrations

In the first example, initially the balls are numbered  $[1, 2, 3, 4]$ . After:

- The first operation, the balls are  $[1, 3, 2, 4]$ .
- The second operation, Momo gives Sakura 3 dollars.
- The third operation, the balls are  $[1, 3, 4, 2]$ .
- The fourth operation, the balls are  $[2, 3, 4, 1]$ .
- The fifth operation, Momo gives Sakura 2 dollars.

Thus, the total money Sakura earns is 5 dollars.