



Dynamic Array in C ★

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Snow Howler is the librarian at the central library of the city of HuskyLand. He must handle requests which come in the following forms:

1 x y : Insert a book with y pages at the end of the x^{th} shelf.

2 x y : Print the number of pages in the y^{th} book on the x^{th} shelf.

3 x : Print the number of books on the x^{th} shelf.

Snow Howler has got an assistant, Oshie, provided by the Department of Education. Although inexperienced, Oshie can handle all of the queries of types 2 and 3.

Help Snow Howler deal with all the queries of type 1.

Oshie has used two arrays:

```

int* total_number_of_books;
/*
 * This stores the total number of books on each shelf.
 */

int** total_number_of_pages;
/*
 * This stores the total number of pages in each book of each shelf.
 * The rows represent the shelves and the columns represent the books.
 */

```

Input Format

The first line contains an integer ***total_number_of_shelves***, the number of shelves in the library.

The second line contains an integer ***total_number_of_queries***, the number of requests.

Each of the following ***total_number_of_queries*** lines contains a request in one of the three specified formats.

Constraints

- $1 \leq \text{total_number_of_shelves} \leq 10^5$
- $1 \leq \text{total_number_of_queries} \leq 10^5$
- For each query of the second type, it is guaranteed that a book is present on the x^{th} shelf at y^{th} index.
- $0 \leq x < \text{total_number_of_shelves}$



- Both the shelves and the books are numbered starting from 0.
- Maximum number of books per shelf ≤ 1100 .

Output Format

Write the logic for the requests of type 1. The logic for requests of types 2 and 3 are provided.

Sample Input 0

```
5
5
1 0 15
1 0 20
1 2 78
2 2 0
3 0
```

Sample Output 0

```
78
2
```

Explanation 0

There are **5** shelves and **5** requests, or queries.

- 1 Place a **15** page book at the end of shelf **0**.
- 2 Place a **20** page book at the end of shelf **0**.
- 3 Place a **78** page book at the end of shelf **2**.
- 4 The number of pages in the **0th** book on the **2nd** shelf is 78.
- 5 The number of books on the **0th** shelf is 2.

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```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  /*
5   * This stores the total number of books in each shelf.
6   */
7  int* total_number_of_books;
8
9  /*
10   * This stores the total number of pages in each book of each shelf.
11   * The rows represent the shelves and the columns represent the books.
12   */
13  int** total_number_of_pages;
14
15  int main()
16  {
17      int total_number_of_shelves;
18      scanf("%d", &total_number_of_shelves);
19
20      int total_number_of_queries;
21      scanf("%d", &total_number_of_queries);
```



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✔ Test case 0

✔ Test case 1

✔ Test case 2

✔ Test case 3

✔ Test case 4

✔ Test case 5

✔ Test case 6

Compiler Message

Success

Input (stdin)

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```
1 99788
2 99568
3 1 50021 443470714
4 1 50043 153031558
5 1 50084 325144167
6 1 50001 418534703
7 1 50046 698808944
8 1 50022 451281656
9 1 50017 148646948
```

