Fenwick Tree

Time Limit: 1.5 Second
Memory Limit: 256 MB

You are given an array a with length n ($1 \leq n \leq 2 \times 10^5$) whose elements are all 0's. You are then asked to perform m ($1 \leq m \leq 2 \times 10^5$) updates, where the i-th update adds v_i to a_{x_i}. After each update, output x_i-th element of the array corresponding to the Sum Fenwick tree of array a (for example, the 8th element of the array should be $\sum a[1 \ldots 8]$ while the 6th element is $\sum a[5, 6]$).

Input

The first line of input contains two integers n and m ($1 \leq n, m \leq 2 \times 10^5$) - the number of elements of array a and the number of updates.

For the next m lines, the i-th line contains two integers x_i and v_i ($1 \leq x_i \leq n$, $1 \leq v_i \leq 10^9$), denoting that the x_i-th element in the array is added with value v_i.

Output

For each update, output an integer denoting x_i-th entry of the array corresponding to the Sum Fenwick tree of array a.

Sample Inputs

```
5 3
2 5
3 9
5 1
```

Sample Outputs

```
5
9
1
```